Hautarzt
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Die Beiträge der Rubrik Weiterbildung sollen dem Stand des zur Facharztprüfung für den Hautarzt ohne Schwerpunktbezeichnung notwendigen Wissens entsprechen und zugleich dem niedergelassenen Facharzt als Repititorium dienen. Die Rubrik beschränkt sich auf klinisch gesicherte Aussagen zum Thema.

Wolfgang Weyers · Carlos Diaz · Imke Weyers · Susanna Borghi
Zentrum für Dermatopathologie, Freiburg

Die Hautbiopsie

Grundlagen, Techniken, Möglichkeiten, Grenzen

Problems of Biopsy

Die Hautbiopsie ist mehr als die Entnahme eines Stückes Gewebe. Sie ist ein diagnostischer Prozeß, der sich aus zahlreichen Schritten zusammensetzt, die höchste Sorgfalt erfordern, von der Wahl der geeigneten Biopsietechnik und der Fixierung und Aufarbeitung des Materials bis hin zur Analyse der mikroskopischen Veränderungen durch einen kompetenten Dermatopathologen. Am Anfang und am Ende dieses Prozesses steht der Kliniker. Er trägt einerseits die Verantwortung für Indikationsstellung, Aufklärung des

Fortbildung

Grundlagen der Hautbiopsie – Teil 3

Die histopathologische Beurteilung entzündlicher Dermatosen

Wolfgang Weyers, Carlos Diaz

Die Biopsie mit anschließender histopathologischer Begutachtung ist nach der klinischen Untersuchung die wichtigste Maßnahme zur Diagnose entzündlicher Dermatosen. Um die Möglichkeiten, die die Biopsie bietet, voll ausschöpfen zu können, muss der Kliniker mit den Methoden der dermatopathologischen Diagnostik und mit Problemen bei besonderen Fragestellungen vertraut sein.

Hautbiopsie

Fortbildung

Grundlagen der Hautbiopsie – Teil 2

Die histopathologische Beurteilung kutaner Neoplasien

Wolfgang Weyers, Carlos Diaz

Die endgültige Diagnose jeder Neoplasie erfolgt auf dem Boden einer Biopsie mit nachfolgender histopathologischer Untersuchung. Um bei der Biopsie von Hauttumoren Fehler zu vermeiden, ist die Kenntnis einiger Grundlagen der histopathologischen Beurteilung von Neoplasien erforderlich.

Wann immer ein Tumor biopsiert wird, steht die Frage nach Gutartigkeit oder Bösartigkeit im Vordergrund. Bösartige Neoplasien sind definiert als solche, die durch Metastasierung oder infiltrierendes und destruierendes Wachstum zum Tode führen können. Die sichersten diagnostischen Kriterien für Malignität sind demnach Tod oder Metastasen; allerdings nutzt die Diagnose dem Patienten dann nichts mehr. In der Rangfolge der Wichtigkeit folgen als weitere Kriterien für Bösartigkeit Zeichen infiltrierenden oder destruierenden Wachstums, wie zum Beispiel großflächige Nekrosen oder Ulzerationen, dann Zeichen unregelmäßigen Wachstums, wie zum Beispiel Asymmetrie und unscharfe Begrenzung, und erst dann zytologischen kleinen Ausschnittes ist ein Melanom häufig nicht auszuschließen, denn auch beim Spitz-Naevus kommen Kernatypien und Mitosen vor, und neoplastische Melanozyten können die gesamte Epidermis durchsetzen, wie dies ansonsten nur beim Melanom der Fall ist. Sieht man anstelle eines kleinen Ausschnittes den gesamten Tumor, ist die Diagnose in der Regel einfach, denn Spitz-Naevi sind symmetrisch aufgebaut, weisen gleichmäßig verteilte Melanozyten auf und werden scharf durch Nester begrenzt (Abb. 1a, b). Diese Kriterien sind zuverlässige Zeichen der Gutartigkeit einer Neoplasie. [1] Wegen ihrer Wichtigkeit sollte die Biopsie von Neoplasien so erfolgen, dass die Architektur beurteilt werden kann, und das heißt: in toto.

der stärksten Infiltration oder stärksten Pigmentierung, als auch zumindest einen Tumorrand in die Biopsie mit einzubeziehen, um die Beurteilung zu ermöglichen, ob der Tumor scharf oder unscharf begrenzt ist (Abb. 2). [2] Da die meisten melanozytären Tumoren oberflächlich wachsen, eignet sich für solche Teilbiopsien ein Shave (Abb. 3), weil dadurch ein größerer Tumoranteil erfasst wird als durch Punch-Biopsien (Abb. 4). Fast alle Kriterien für die Diagnose eines Melanoms beziehen sich auf Veränderungen in der Epidermis: Das Vorkommen von atypischen Melanozyten und von Melanozyten in höheren Epidermislagen, die fokale Dominanz einzelner Melanozyten, Unterschiede in Größe, Form und Anordnung von Nestern und eine großflächige Nesterkonfluenz – all dies sind Veränderungen die in den obersten Millimeterbruchteilen der Haut nachweisbar sind. Sie werden durch eine breite Shave-Biopsie besser dargestellt als durch eine kleine Punch-Biopsie, die auf Kosten der pathologisch veränderten Epidermis einen größeren Anteil unauffälliger Dermis

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Hautpathologie

W. Weyers · C. Diaz · Zentrum für Dermatopathologie Freiburg

Grundlagen der Hautbiopsie

Problems of Biopsy

73rd Brazilian Congress of Dermatology, Curitiba, September 6-9, 2018

Although biopsy is an extremely important aspect of dermatology, its possibilities and limitations are rarely discussed. Having addressed that issue repeatedly in the past years, I chose to speak about "problems of biopsy" today. At second thought, however, I came to realize

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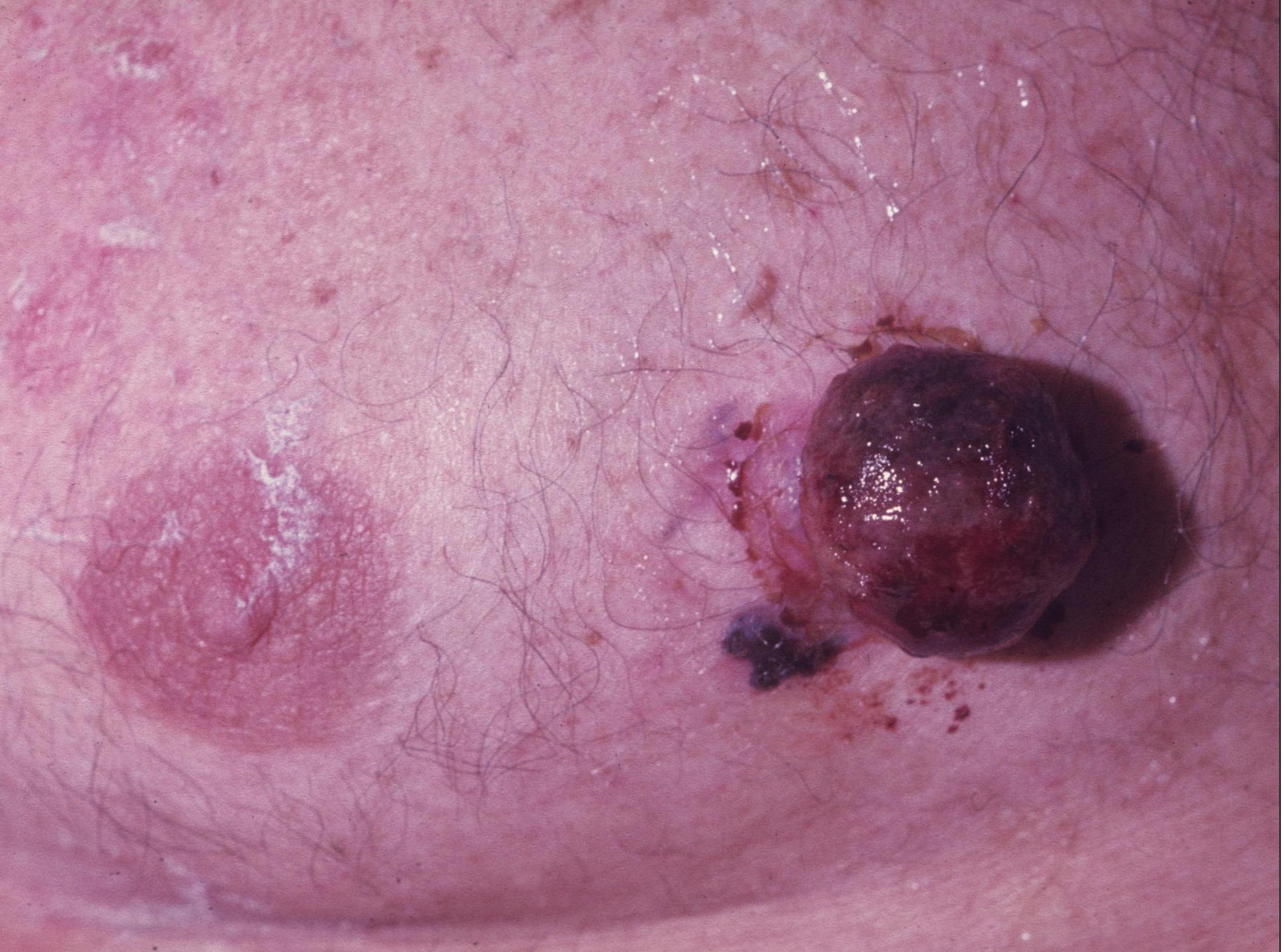
that this subject sounds exceptionally boring. Therefore, I reconsidered and came up with a better title:

"The Biggest Problem in Dermatology – and Ways to Resolve It." This may come a little bit unexpectedly, but the goods news for all those who wanted to hear something about "problems of biopsy" is that only the title has been changed. The subject will be the same because I consider current practices of biopsy to qualify as "the biggest problem in dermatology" today.
Of course, one might argue that dermatology is in excellent shape if current biopsy practices are its biggest problem. It is true that times were worse.



Just a few decades ago, biopsies were performed rarely, and often far too late, e.g., in the mid 20th century when textbooks of dermatology still claimed that melanomas began as “black nodules,”

Premalignant Melanocytic Dysplasias

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*Department of Pathology, Tulane University School of Medicine and Touro Infirmary, New Orleans, Louisiana; †Department of Dermatology and Pathology, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania; ‡Department of Dermatology, Massachusetts General Hospital and Harvard Medical School, Boston, Massachusetts

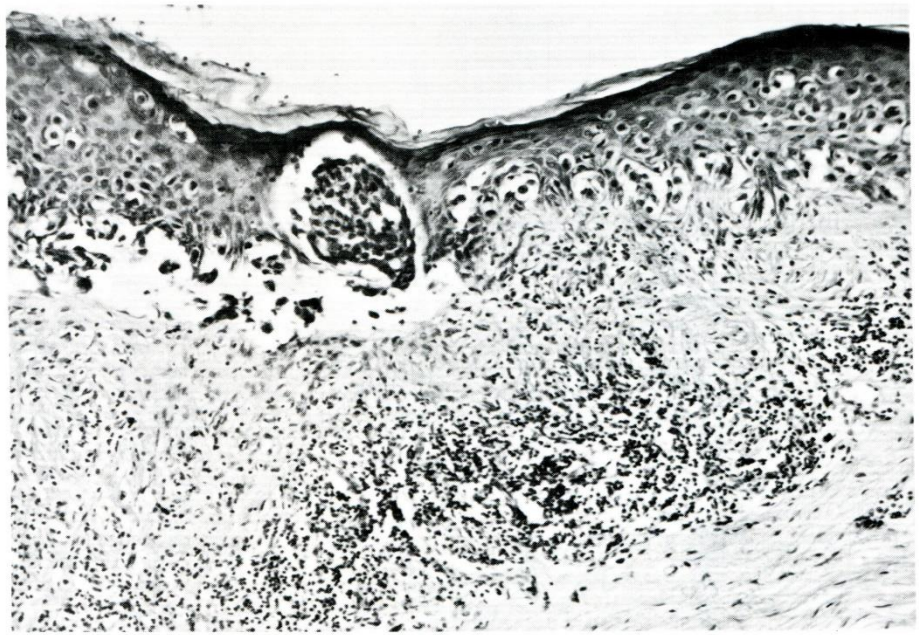


FIGURE 3. This junctional severe dysplasia shows rounded nests of atypical melanocytes at the dermal-epidermal interface and infiltration of the overlying epidermis. The underlying papillary dermis is widened and shows prominent lamellar fibrosis with the laminated fibrous tissue forming a cell-poor band between the lymphoid infiltrates and the population of dysplastic melanocytes in the epidermis. The pattern of epidermal infiltration and the degree of dysplasia are of a type commonly seen in the radial growth component of superficial spreading malignant melanoma. The dysplasia is less than that seen in a fully developed radial component of superficial spreading melanoma.

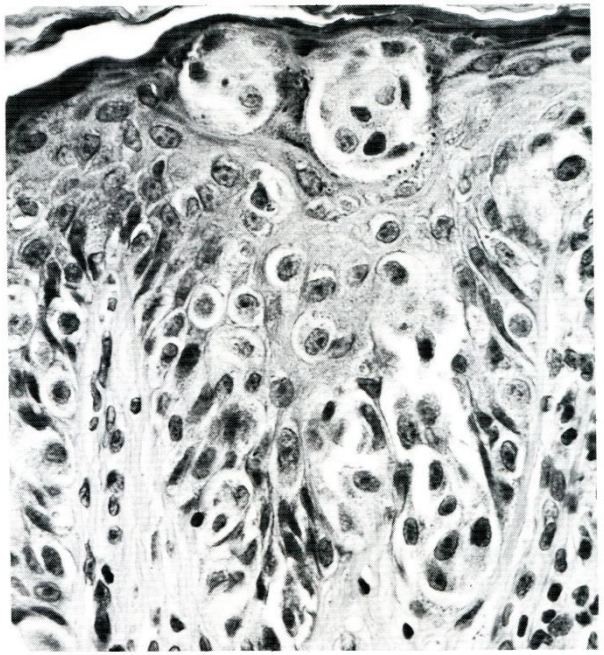
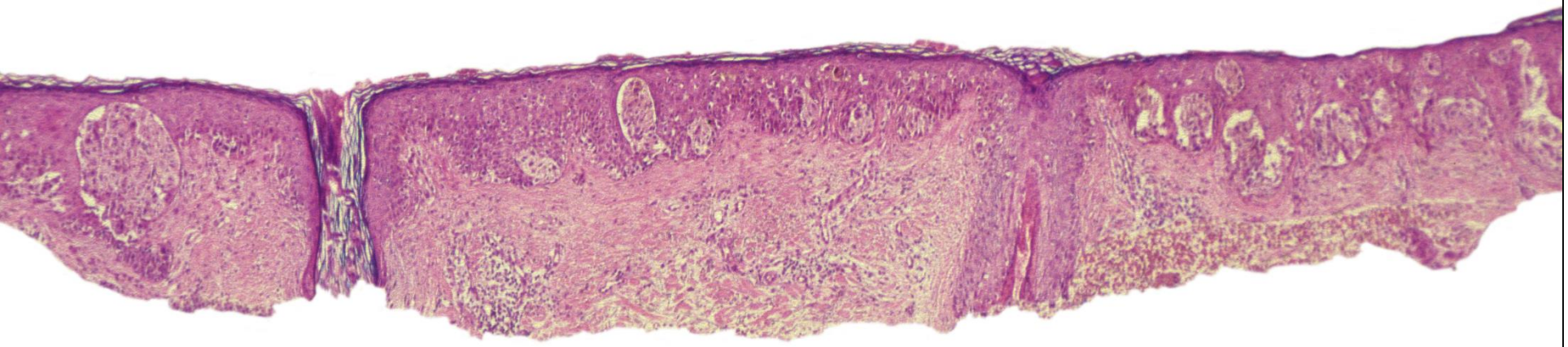
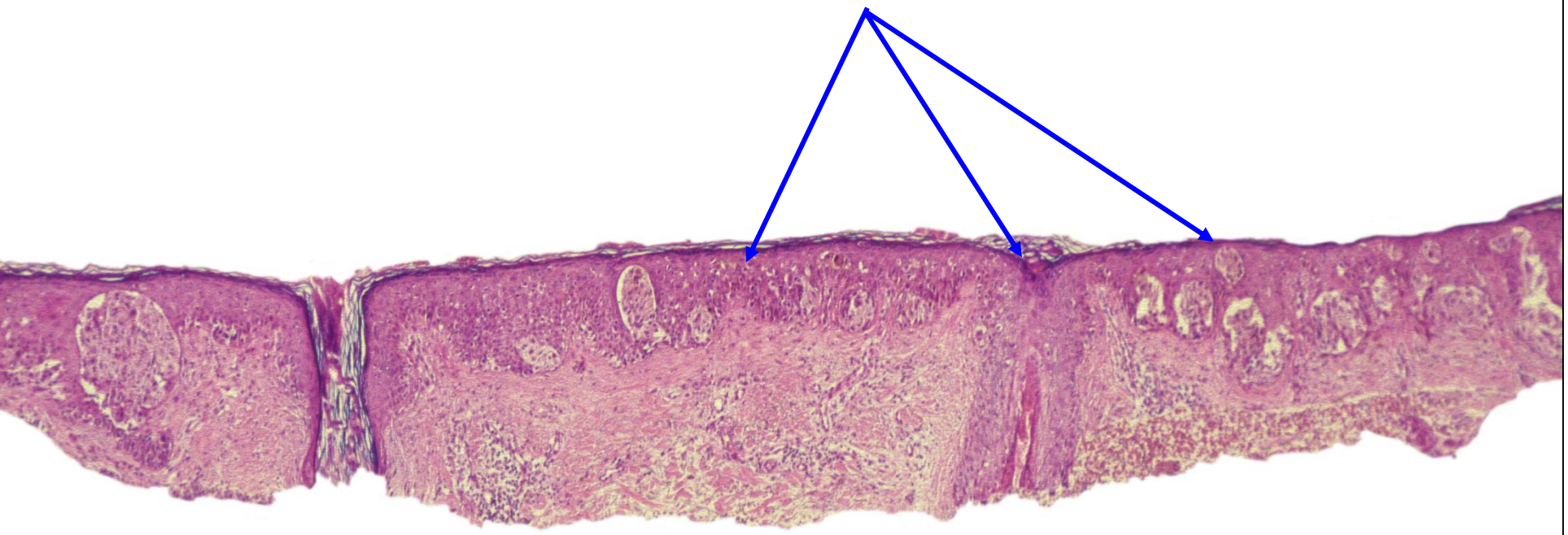


FIGURE 12. In this melanocytic dysplasia, the lesion in a small area shows a moderately severe dysplasia with pagetoid patterns of epidermal invasion. The cells in the basal portion of the epidermis and in the elongated rete ridges are distributed in lentiginous patterns. Rounded nests of cells are present near the granular layer. If this pattern were uniformly developed in the epidermis, the lesion would qualify as superficial spreading malignant melanoma. As a focal alteration in the epidermis in a moderate melanocytic dysplasia, it qualifies as focal, severe melanocytic dysplasia.

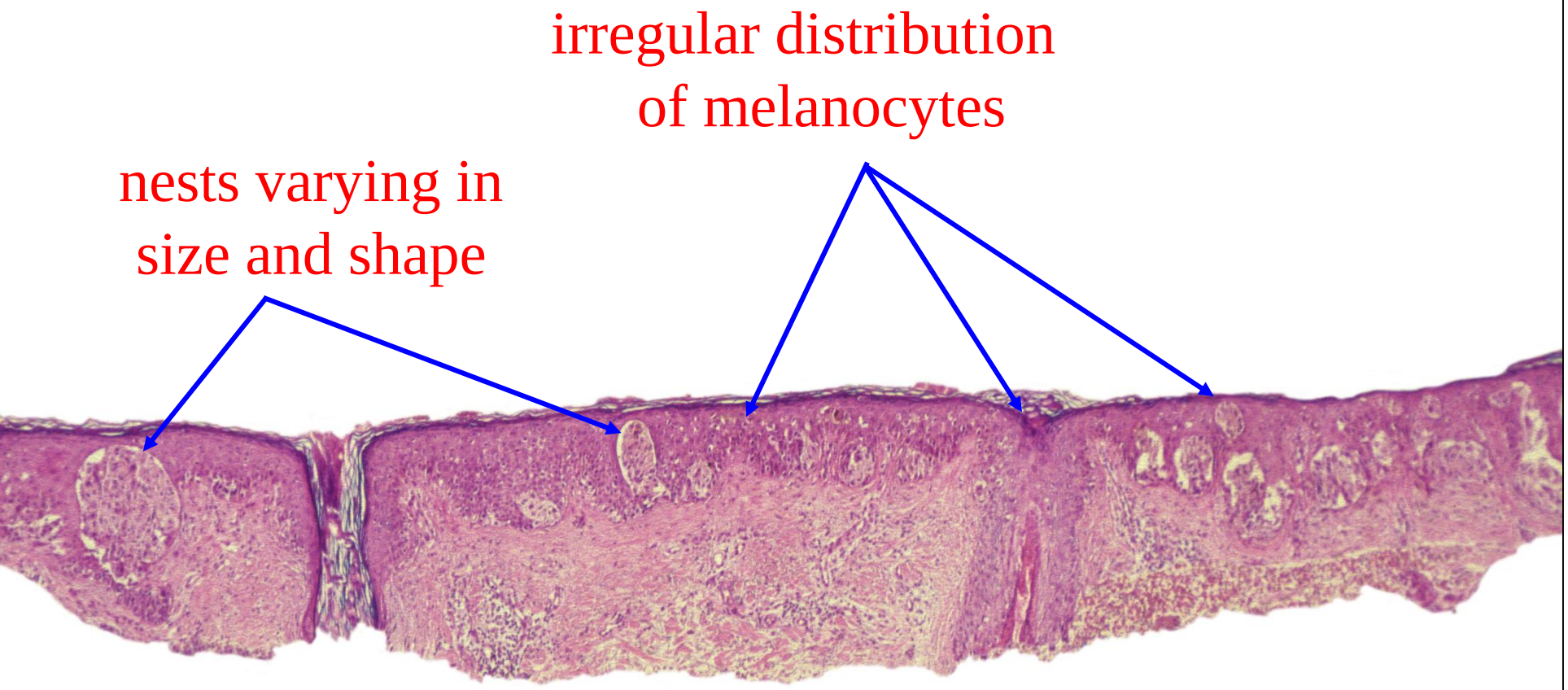
or in the 1980s, when melanomas were biopsied at an early stage but were not recognized for what they were, being referred instead to as “melanocytic dysplasias”.



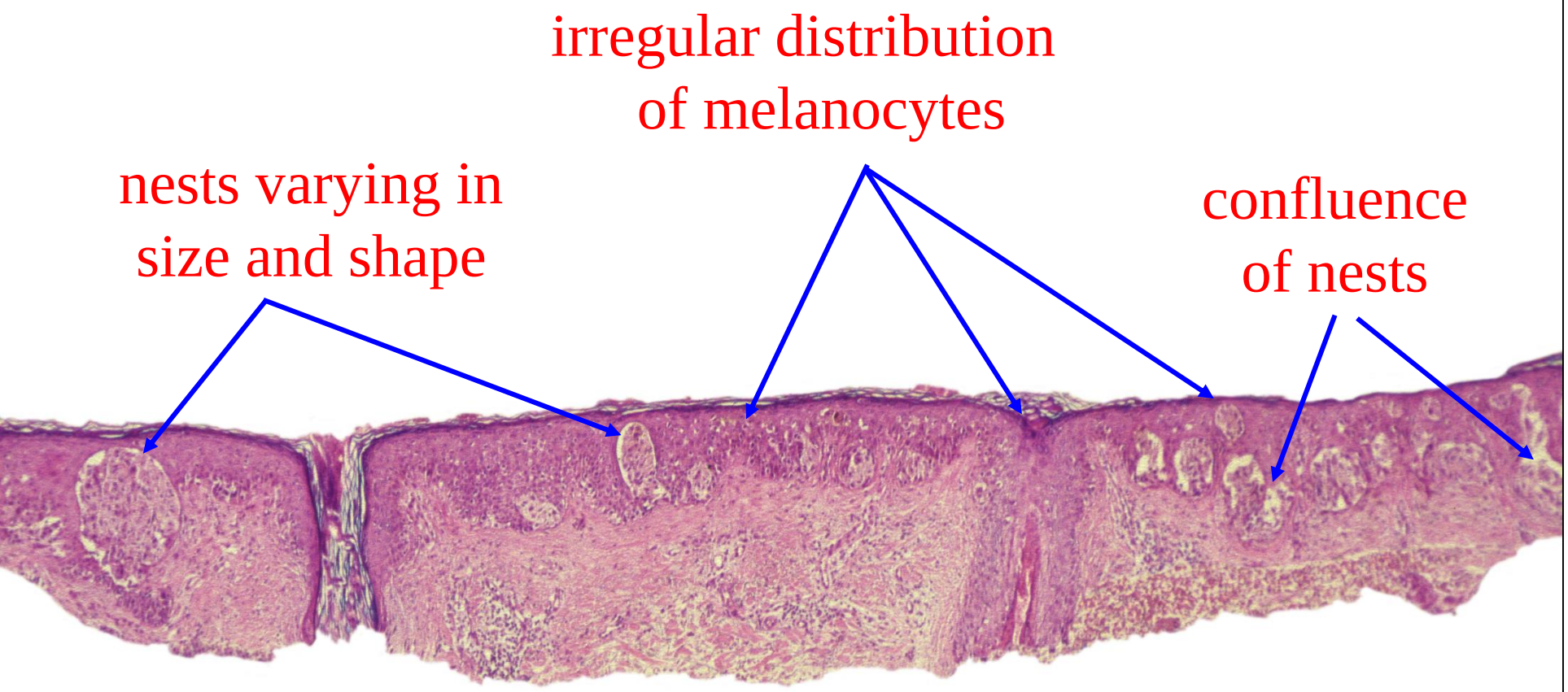
Meanwhile, criteria for early histopathologic diagnosis of melanoma have become clearly established,



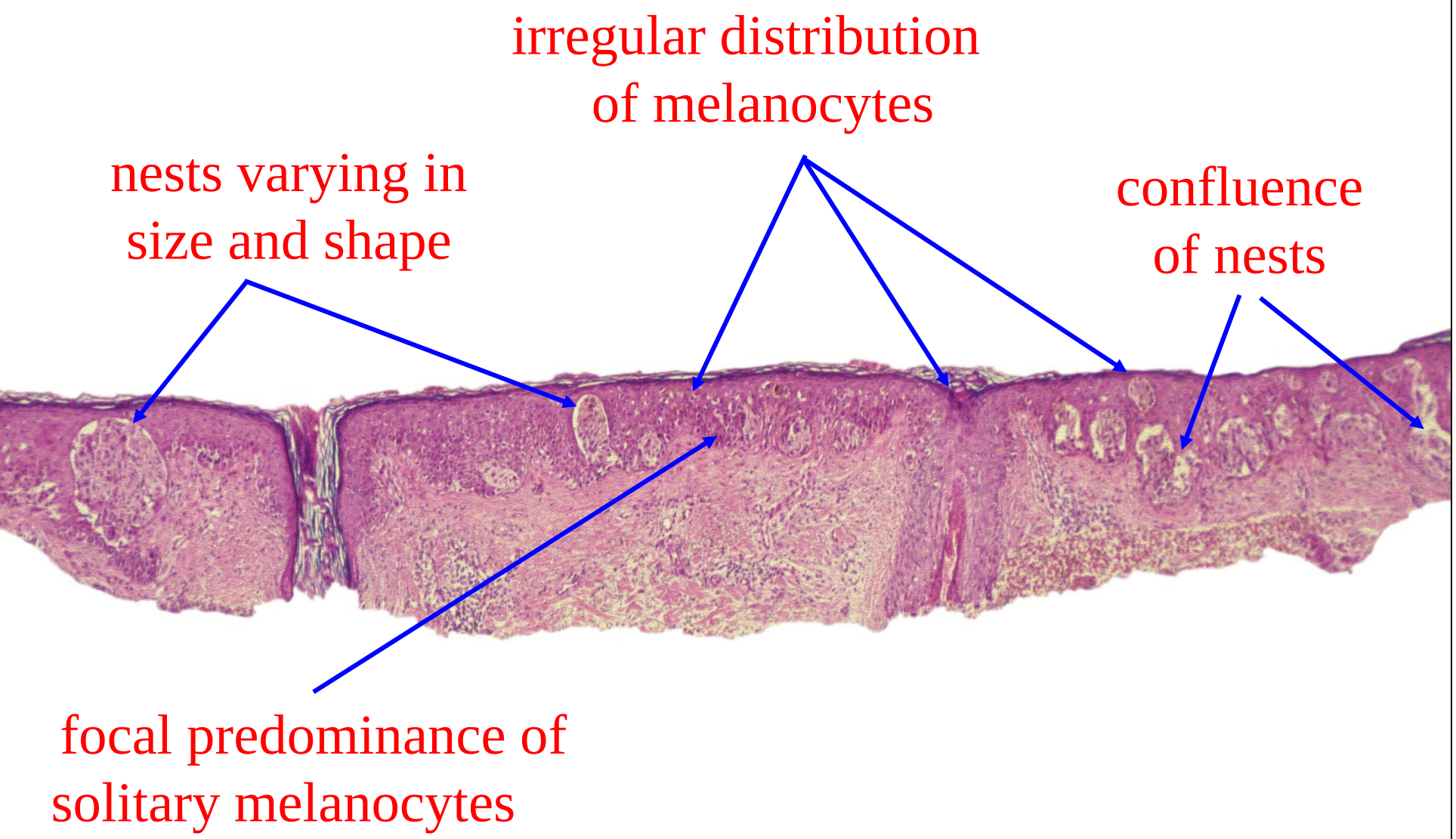
such as irregular distribution of melanocytes,



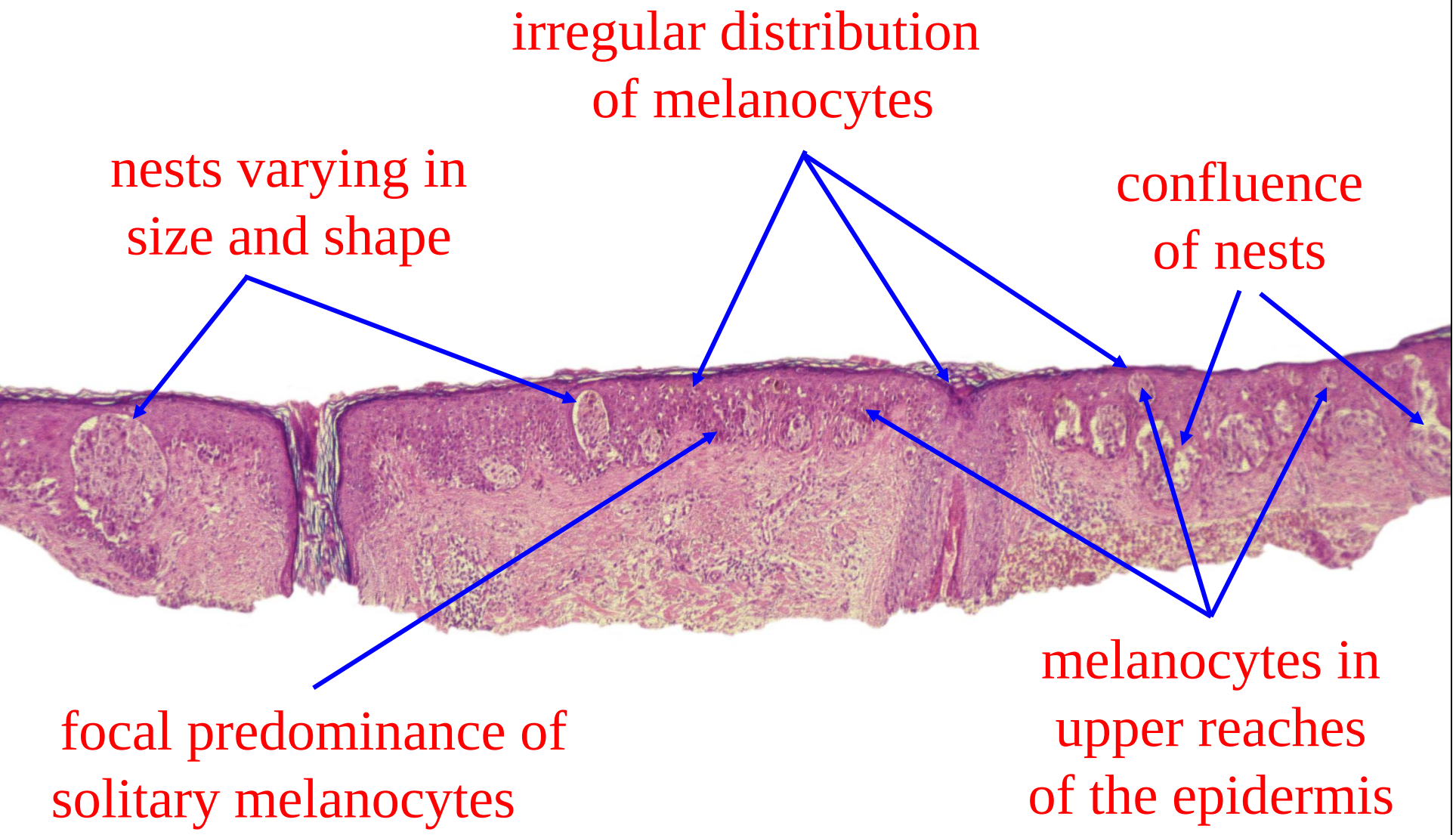
nests varying in size and shape,



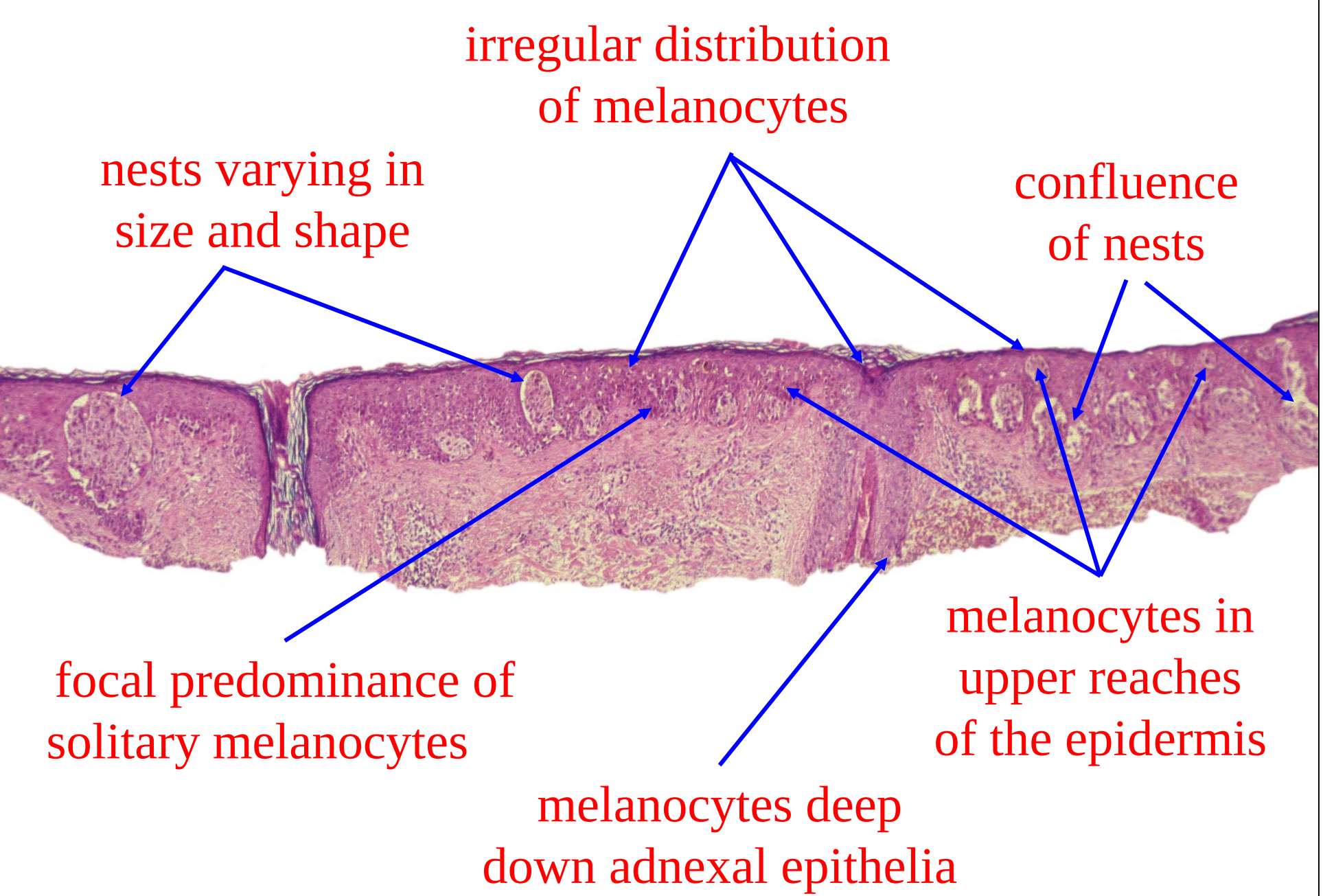
confluence of nests,



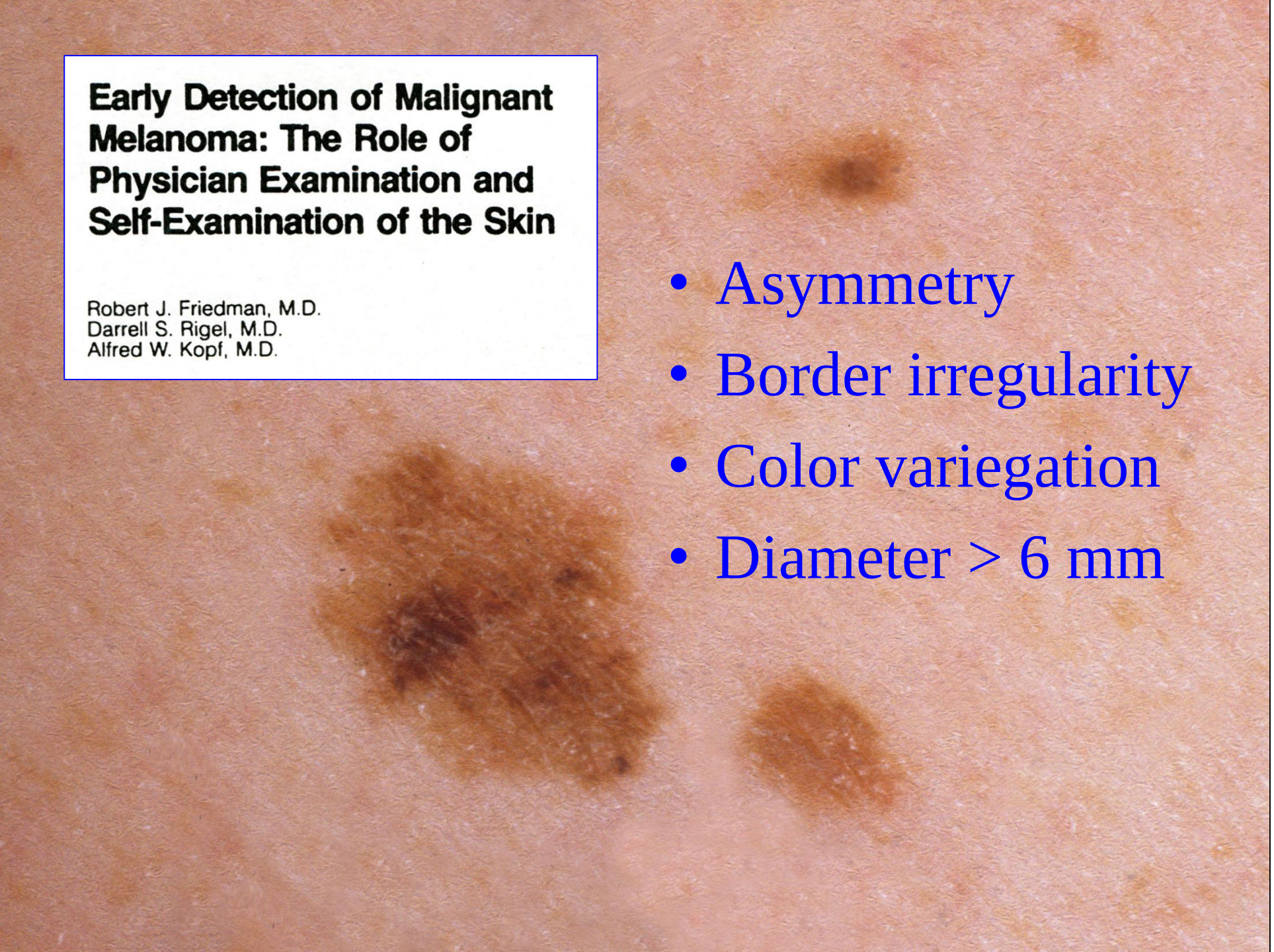
focal predominance of solitary melanocytes,



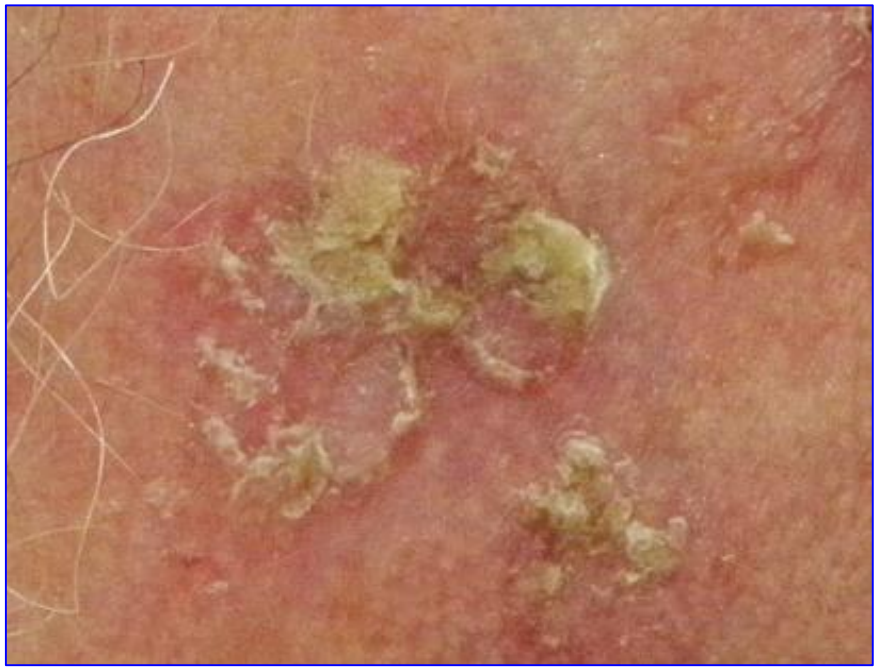
melanocytes in the upper reaches of the epidermis,

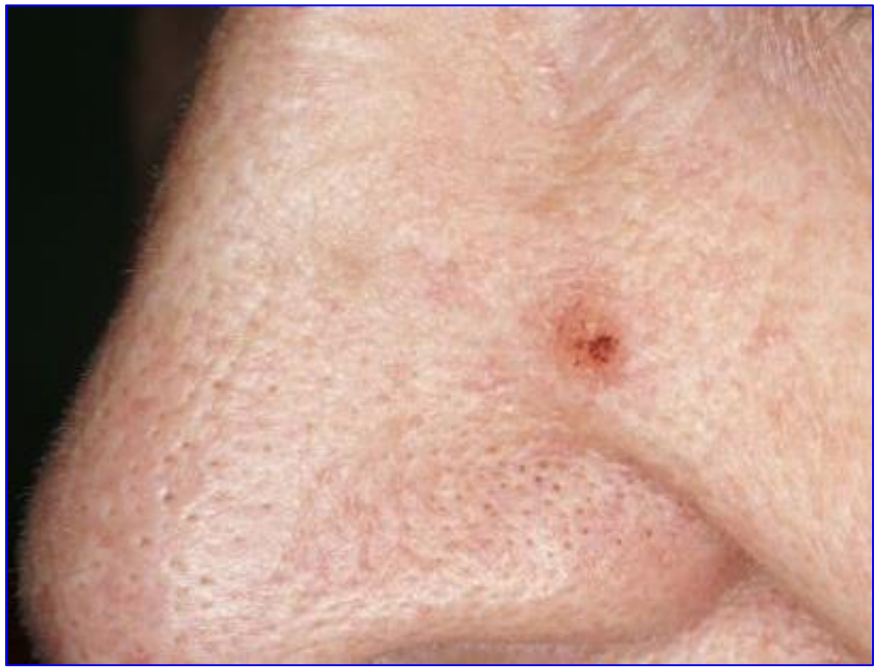


and melanocytes deep down adnexal epithelia. Improvement of histopathologic criteria for incipient melanomas also enabled those lesions



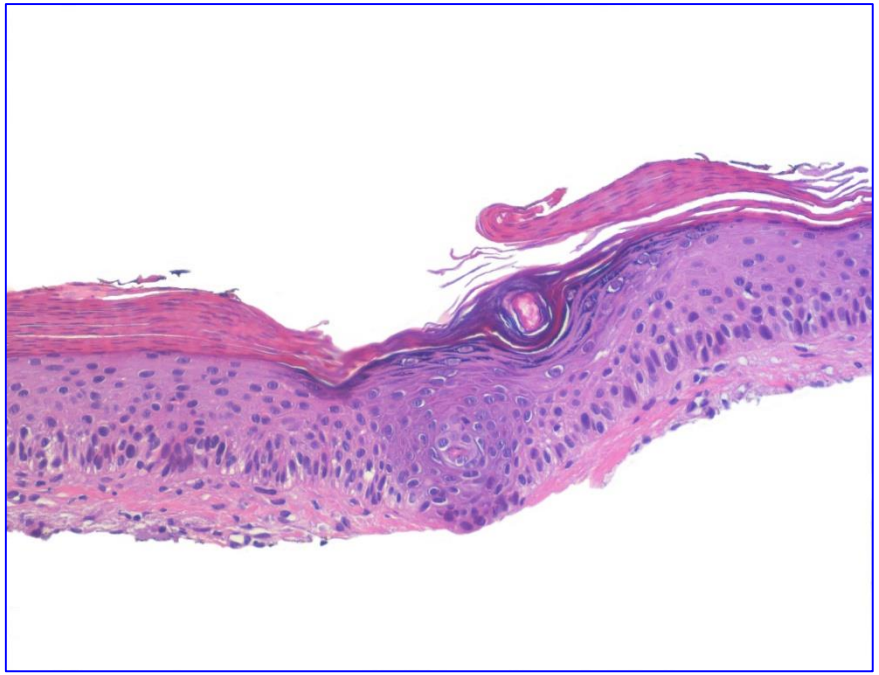
to be recognized clinically, and today, the ABCD rule established in 1985 is well known even by the laity.

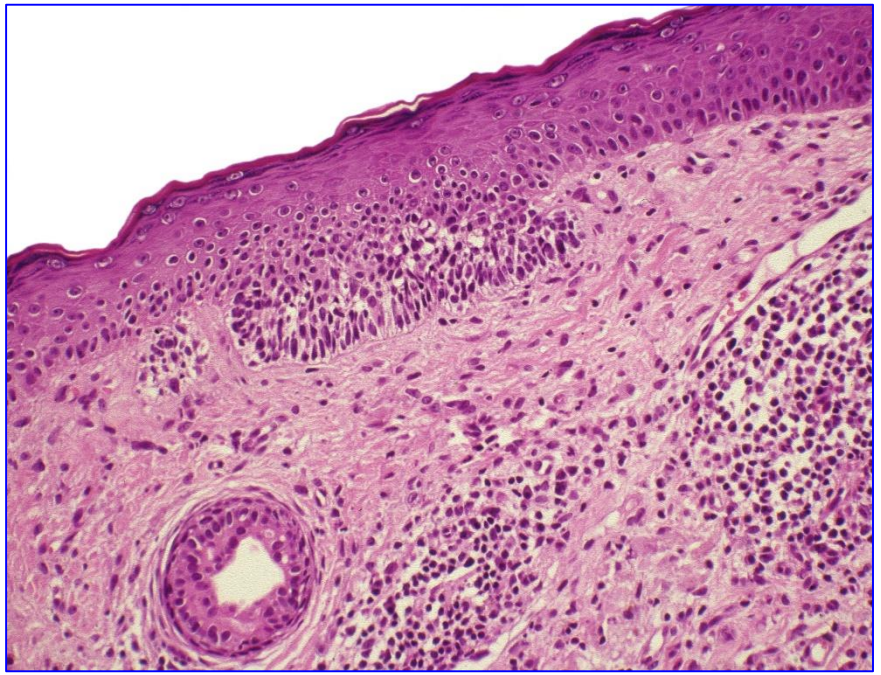


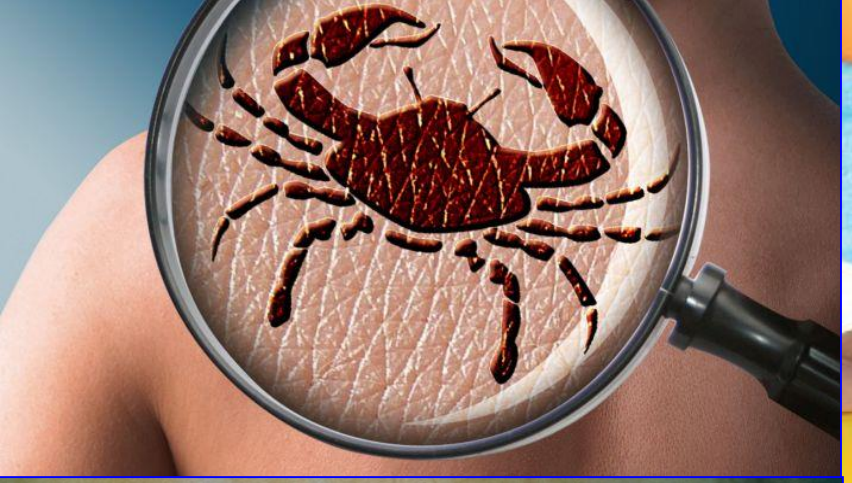


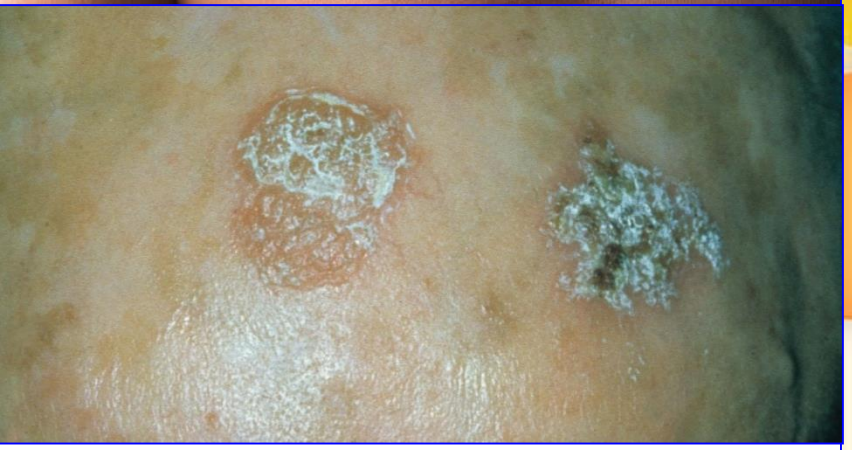
Likewise, other cutaneous neoplasms can be recognized at an early stage based on irregularities in color, cornification, or structure.

Diagnosis, however, becomes increasingly difficult with progressively earlier stages.

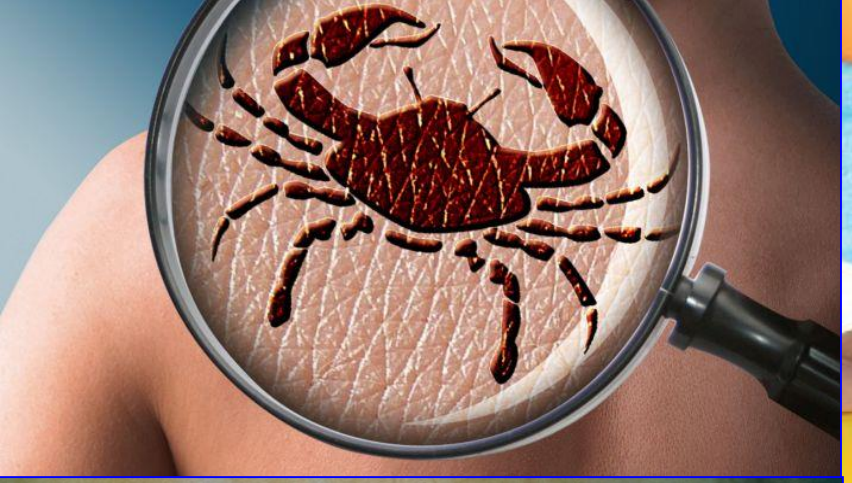


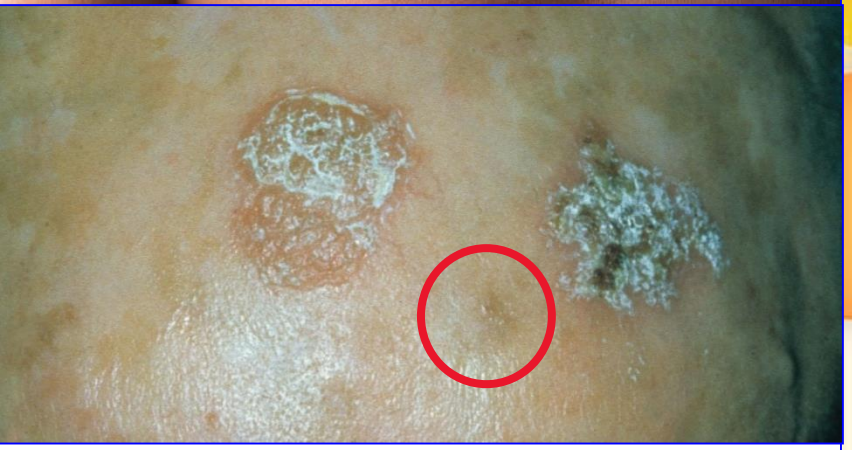




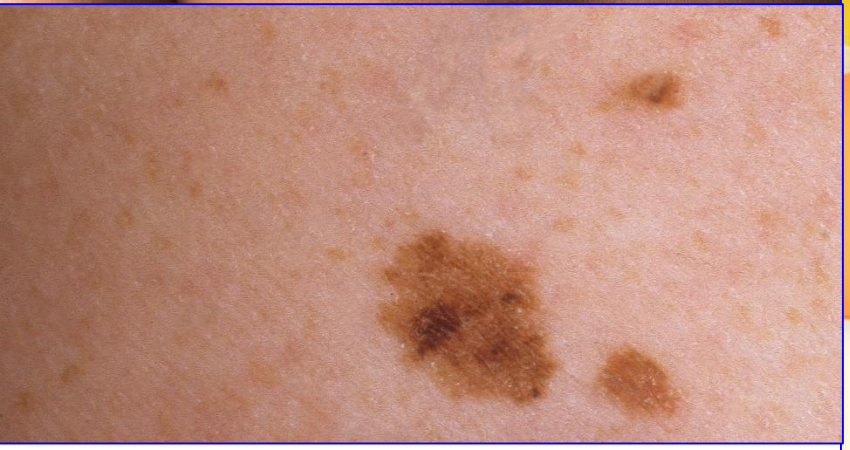


In that regard, screening campaigns have put dermatologists under great pressure. More and more patients present themselves with tiny lesions, and physicians are under great pressure not to overlook anything. The challenge is no longer diagnosis of carcinoma in situ

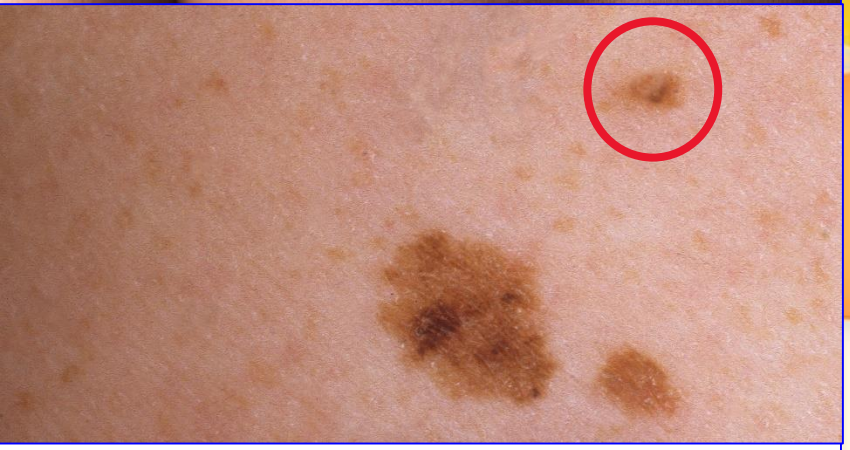




but of lesions that may represent incipient carcinoma in situ,



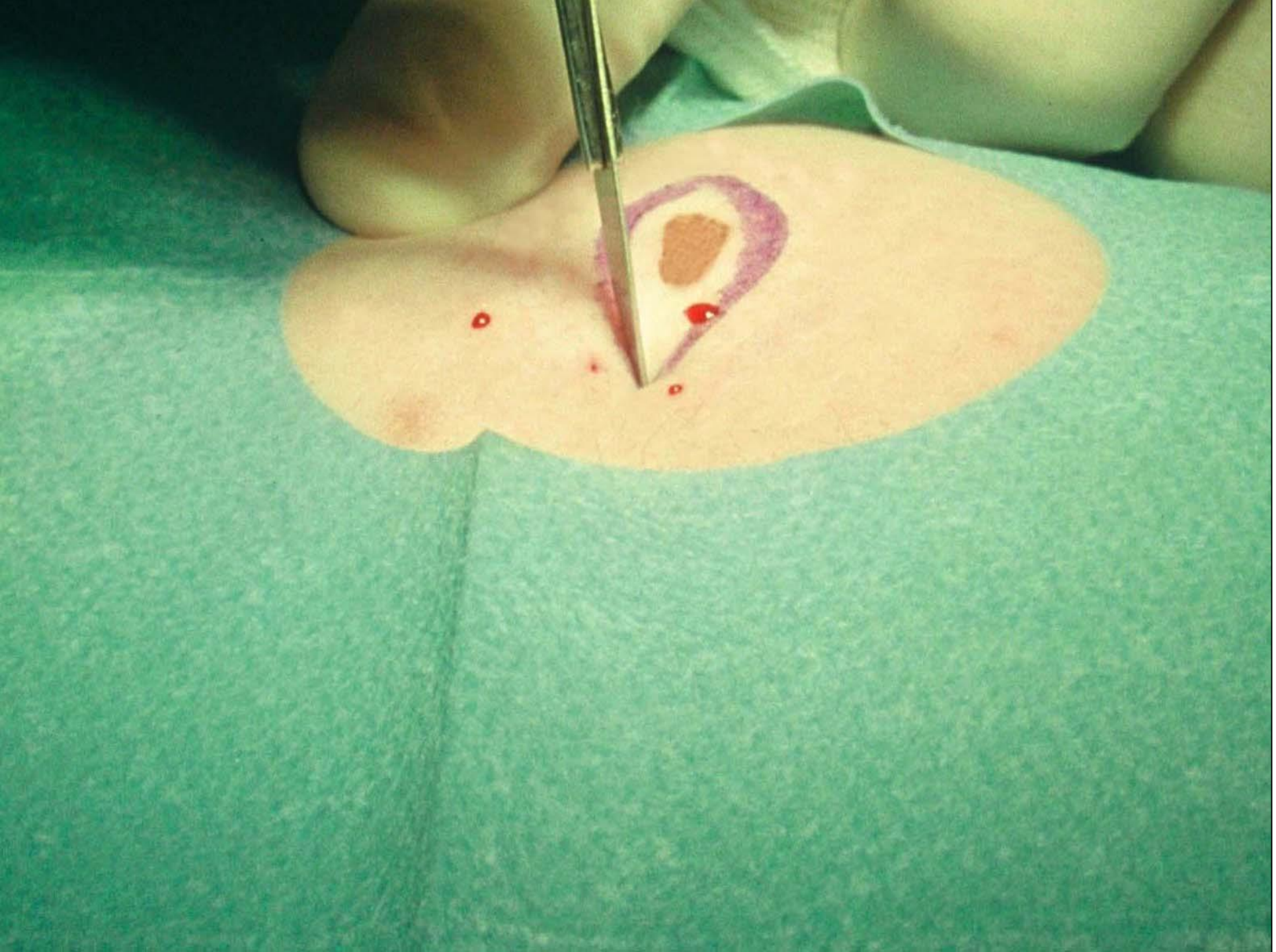
no longer of melanoma in situ



but of lesions that may represent incipient melanoma in situ. In cases of doubt, those lesions are biopsied out of fear to overlook something. In principle, that attitude is desirable, but it is also creates problems, three of which are especially important:

- Unnecessary biopsies of countless benign lesions
- Enhanced risk of histopathologic misdiagnosis
- Reduced quality of biopsies as a result of enhanced frequency

First, unnecessary biopsies of countless benign lesions are performed; second, there is an enhanced risk of histopathologic misdiagnosis at early stages; and third, the quality of biopsies is reduced as a result of enhanced frequency of them. Let's take a closer look at those problems.



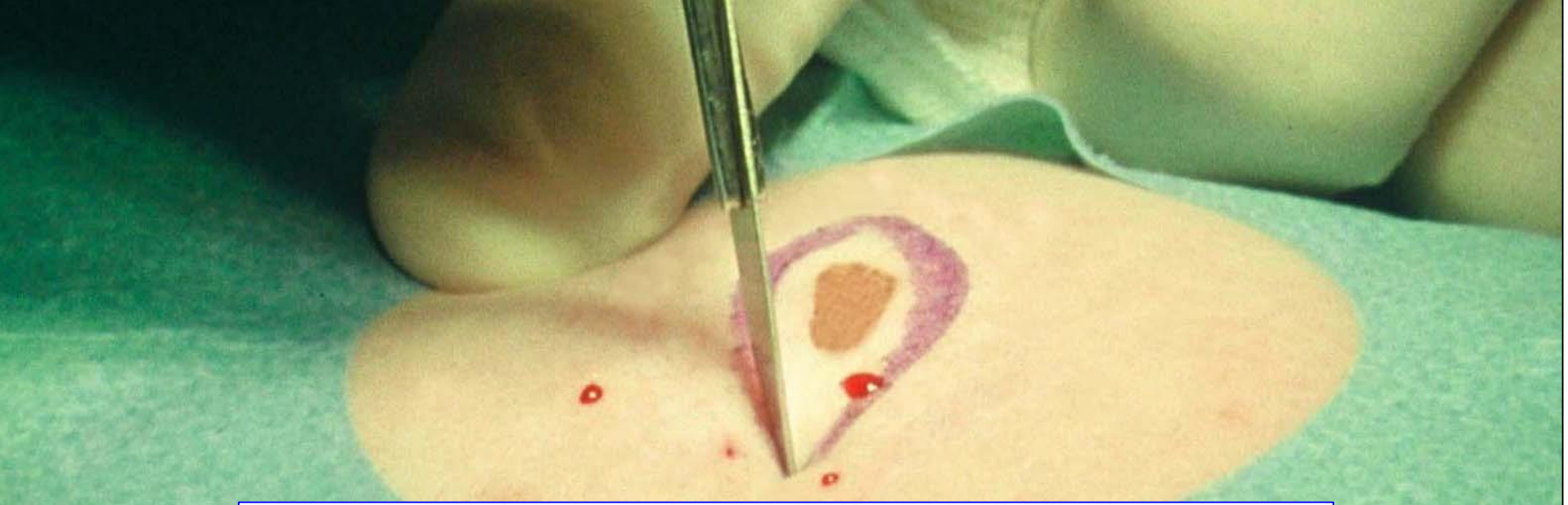
First, in principle, any excision of a benign lesion qualifies as overtreatment.

Addressing overdiagnosis and overtreatment in cancer: a prescription for change

Laura J Esserman, Ian M Thompson, Brian Reid, Peter Nelson, David F Ransohoff, H Gilbert Welch, Shelley Hwang, Donald A Berry, Kenneth W Kinzler, William C Black, Mina Bissell, Howard Parnes, Sudhir Srivastava

A vast range of disorders—from indolent to fast-growing lesions—are labelled as cancer. Therefore, we believe that several changes should be made to the approach to cancer screening and care, such as use of new terminology for indolent and precancerous disorders. We propose the term indolent lesion of epithelial origin, or IDLE, for those lesions (currently labelled as cancers) and their precursors that are unlikely to cause harm if they are left untreated. Furthermore, precursors of cancer or high-risk disorders should not have the term cancer in them. The rationale for this change in approach is that indolent lesions with low malignant potential are common, and screening brings indolent lesions and their precursors to clinical attention, which leads to overdiagnosis and, if unrecognised, possible overtreatment. To minimise that potential, new strategies should be adopted to better define and manage IDLEs. Screening guidelines should be revised to lower the chance of detection of minimal-risk IDLEs and inconsequential cancers with the same energy traditionally used to increase the sensitivity of screening tests. Changing the terminology for some of the lesions currently referred to as cancer will allow physicians to shift medicolegal notions and perceived risk to reflect the evolving understanding of biology, be more judicious about when a biopsy should be done, and organise studies and registries that offer observation or less invasive approaches for indolent disease. Emphasis on avoidance of harm while assuring benefit will improve screening and treatment of patients and will be equally effective in the prevention of death from cancer.

Because of cancer screening, that kind of overtreatment has become extremely common. Epidemiologists have called for changes in that practice for years, and they are right to deplore



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that *"biopsy samples are taken from hundreds of thousands of benign lesions … In addition to needless morbidity, these interventions cost billions of dollars."*

Clinical dermatology • **Original article**

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Clinical and Experimental Dermatology

The number of benign moles excised for each malignant melanoma: the number needed to treat

S. Sidhu, O. Bodger, N. Williams* and D. L. Roberts†

*The Welsh Institute of Dermatology, University Hospital of Wales, Cardiff, UK; School of Medicine, Swansea University, UK; and Departments of *Histopathology and †Dermatology, Singleton Hospital, Swansea, UK*

doi:10.1111/j.1365-2230.2011.04148.x

Summary

Background. The ratio of benign moles excised for each malignant melanoma (MM) diagnosed, i.e. the number needed to treat (NNT), may be a useful indicator of diagnostic accuracy and the efficient use of healthcare resources, and may have personal implications for the patient.

Aim. To assess the NNT for a group of consultant dermatologists serving a population of 600 000, and to compare this with similar studies from other countries.

Methods. This was a retrospective analysis of data on pigmented lesions excised over a 5-year period (2005–2009). The lesions were divided into three groups: benign naevi (BN), dysplastic naevi (DN) and MM. The NNT ratio was calculated as (BN + DN + MM)/MM.

Results. In total, 4691 lesions were examined. The overall mean NNT was 6.3, with a range of 4.9–11.3 for each of nine consultant dermatologists. The mean NNT was 7.6 for female and 4.8 for male patients. There were more patients with BN (n = 3534; 75%) than with DN (n = 407; 9%) or MM (n = 750; 16%). The gender representation was similar in the DN and MM groups, but had a disproportionately female bias in the BN group (67% female, 33% male patients). Overall, there were more female patients in all three groups [2962 female patients (63%) and 1729 male patients (37%)].

Conclusions. The NNT of 6.3 in this study compares favourably with NNT ratios from studies of dermatologists from other countries. This study may encourage other countries and individual doctors to assess their NNT ratios, as it may be an important indicator of the efficient use of resources and the avoidance of unnecessary surgery for patients.

The ratio of benign moles excised for each melanoma has been referred to as the *"number needed to treat"*

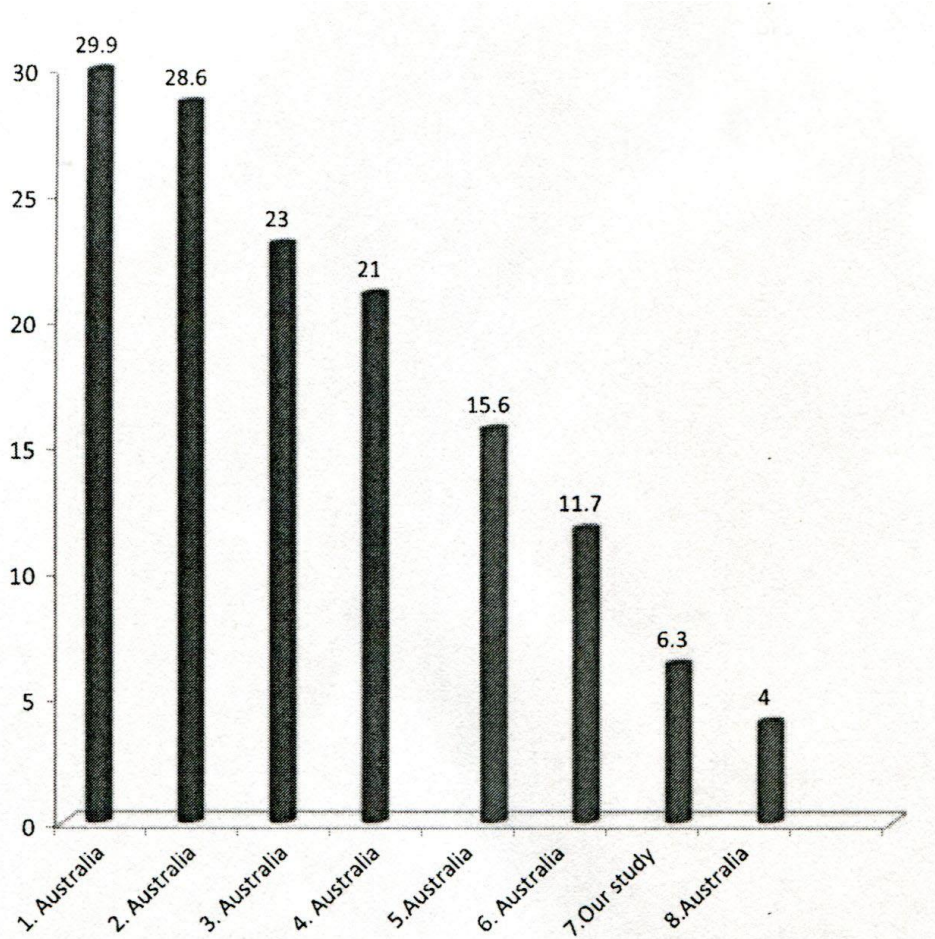


Figure 2 Comparison of number needed to treat published in various studies. Bars (left to right): Marks *et al.*[6]; Wilkinson *et al.*[5]; Hansen *et al.*[1]; English *et al.*[2]; Baade *et al.*[3]; Marks *et al.*[6]; present study; Chia *et al.*[4].

and varies considerably between different studies. I recently looked at our own figures, i.e., the ratio between nevi and melanomas at a big laboratory of dermatopathology in Germany where population-based skin cancer screening has been implemented ten years ago,

and our numbers are far higher. The majority of those nevi were very small,

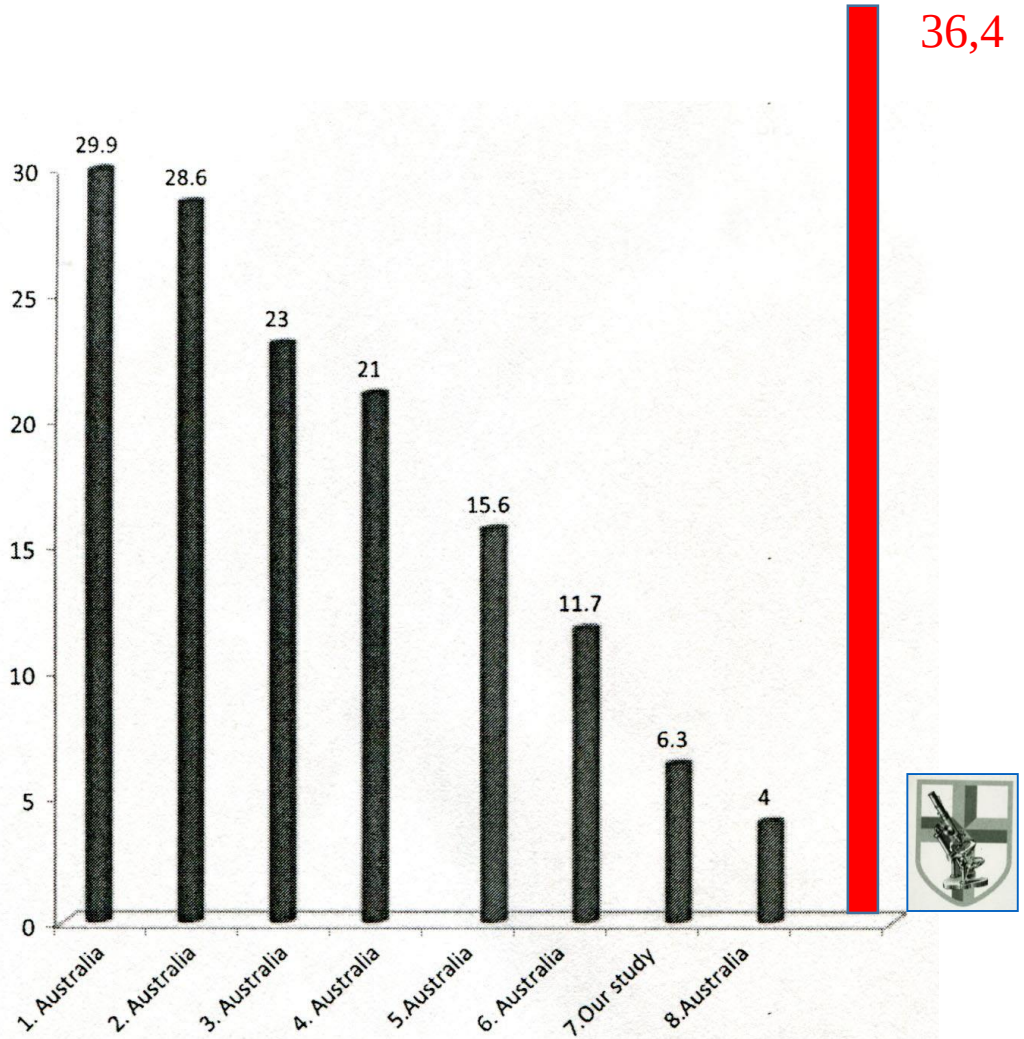
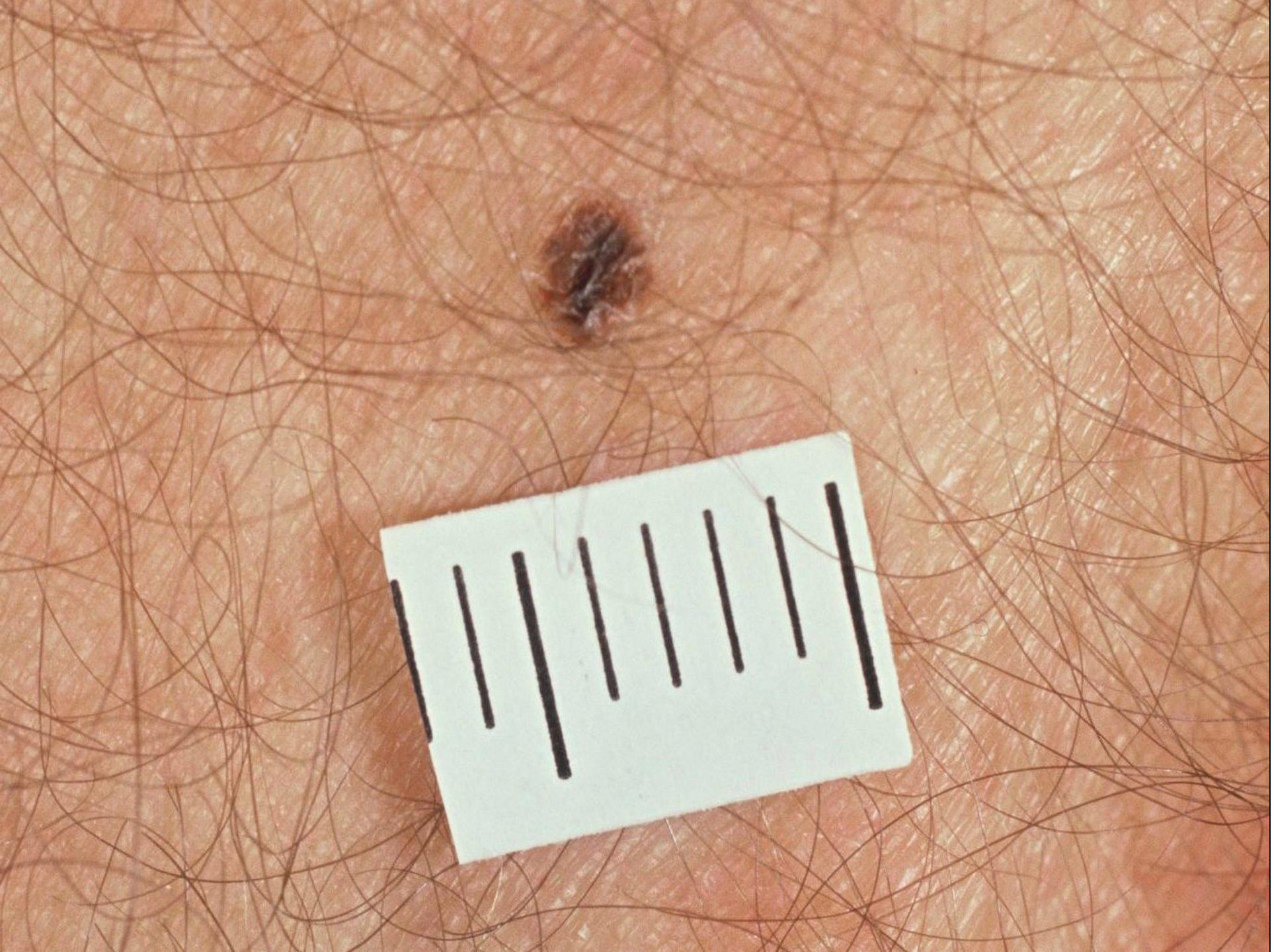


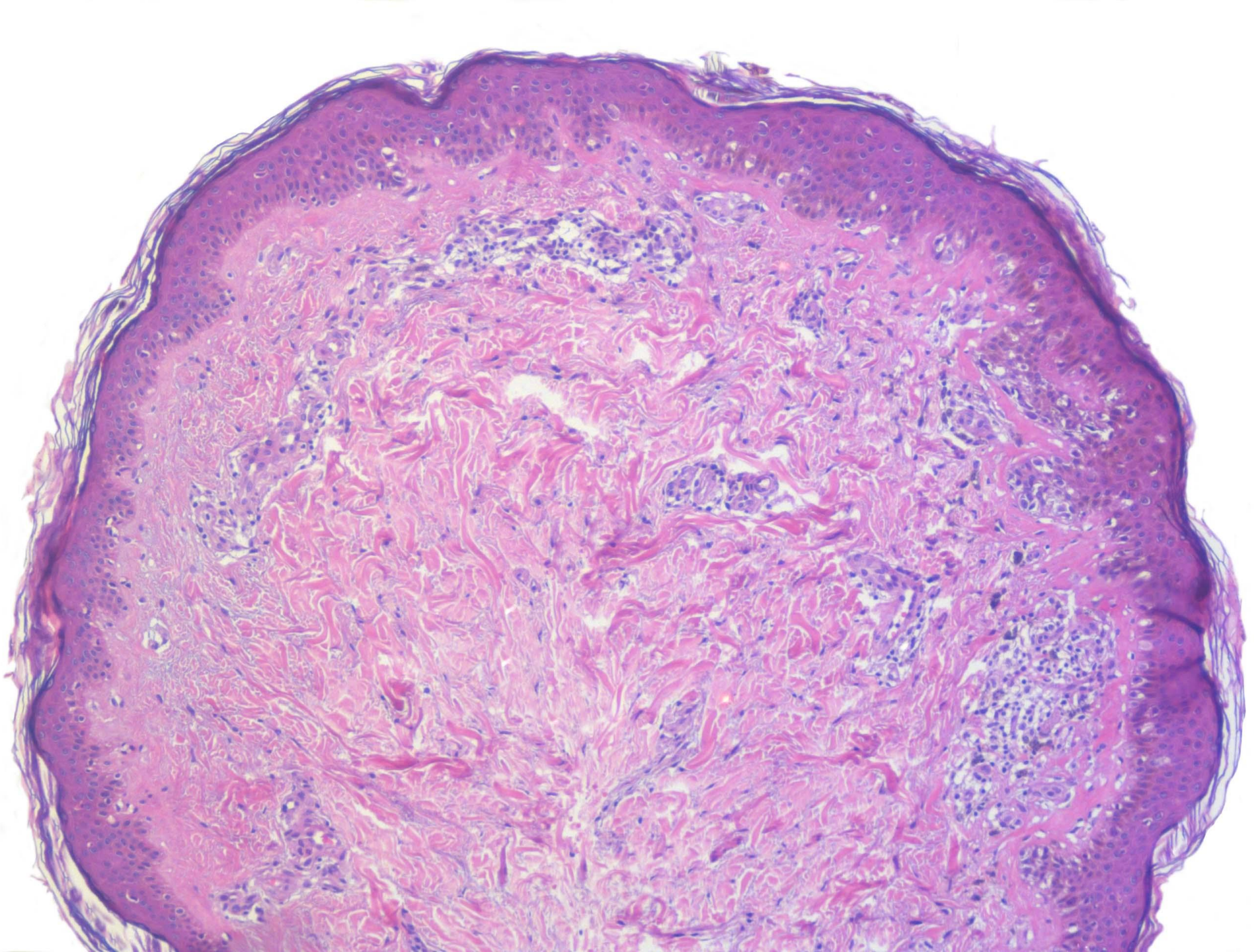
Figure 2 Comparison of number needed to treat published in various studies. Bars (left to right): Marks *et al.*[6]; Wilkinson *et al.*[5]; Hansen *et al.*[1]; English *et al.*[2]; Baade *et al.*[3]; Marks *et al.*[6]; present study; Chia *et al.*[4].



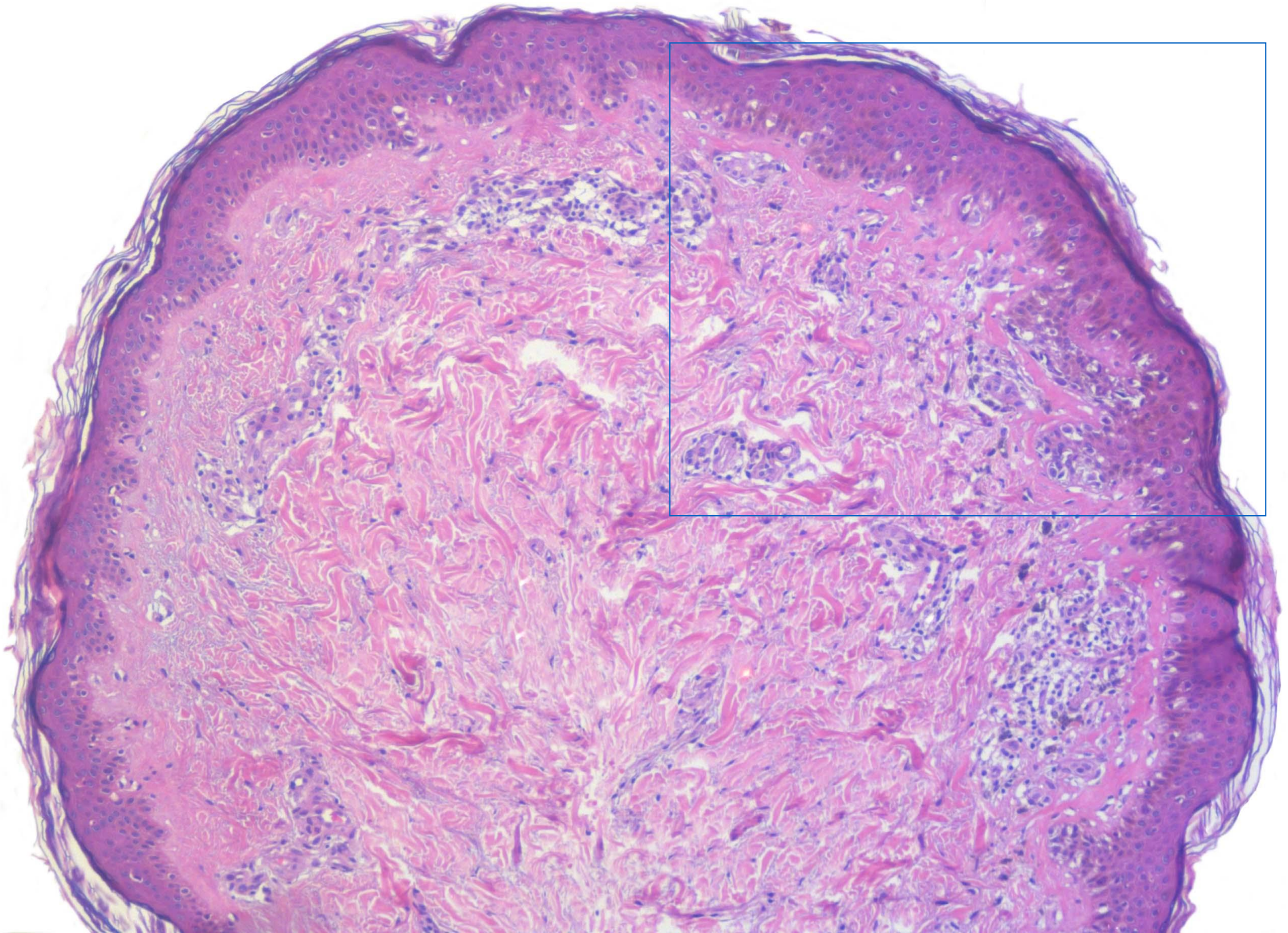
3 to 4 mm in diameter or even smaller. At that stage, it is extremely difficult to distinguish nevi and melanomas from one another because the latter did not have enough time to develop features that make them recognizable, such as an irregular border or irregular distribution of pigment.

- Unnecessary biopsies of countless benign lesions
- Enhanced risk of histopathologic misdiagnosis
- Reduced quality of biopsies as a result of enhanced frequency

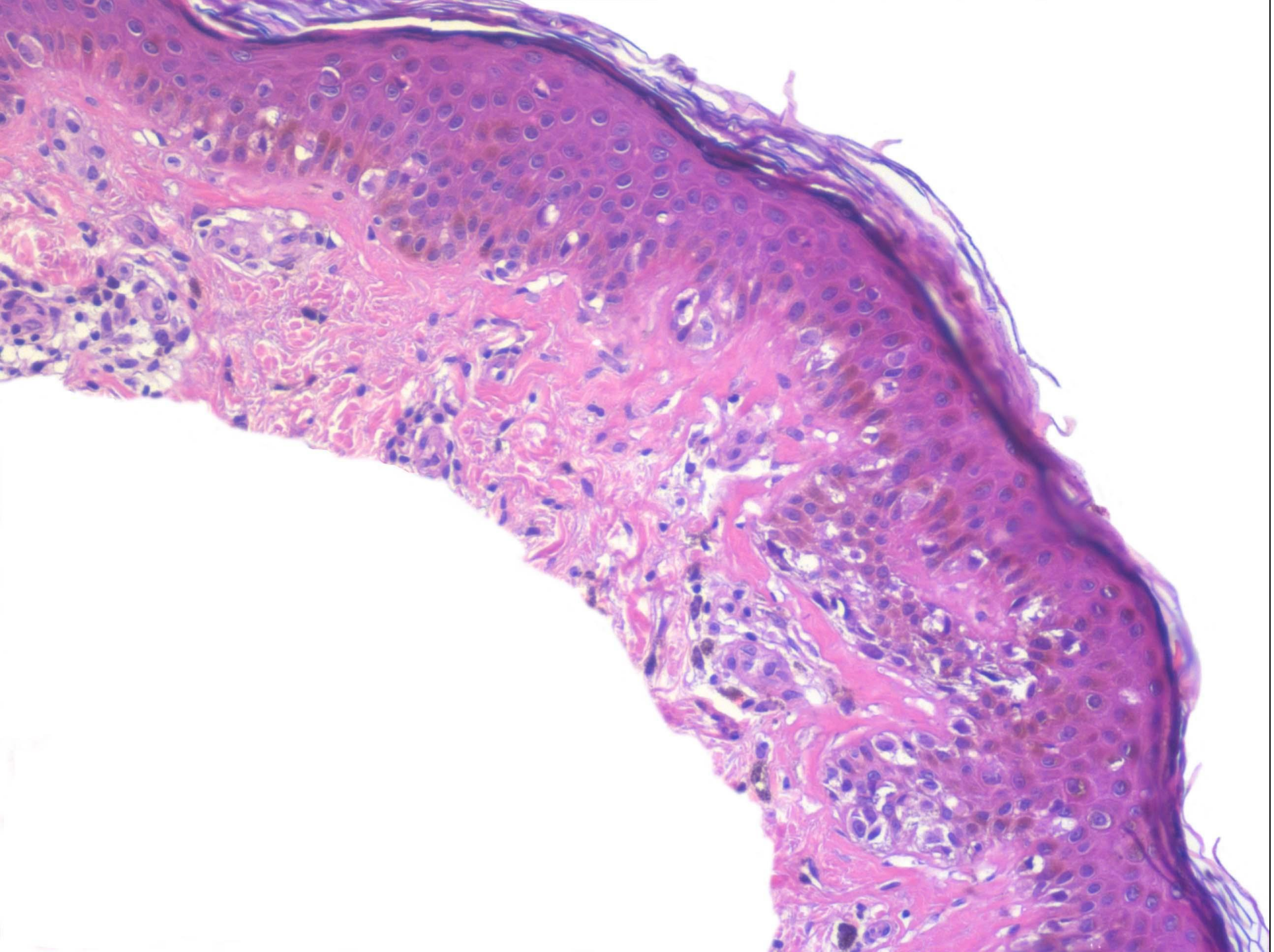
This takes us to the second problem, namely, the enhanced risk of histopathologic misdiagnosis in early lesions. Naturally, histopathologists are confronted with the same problem as clinicians:



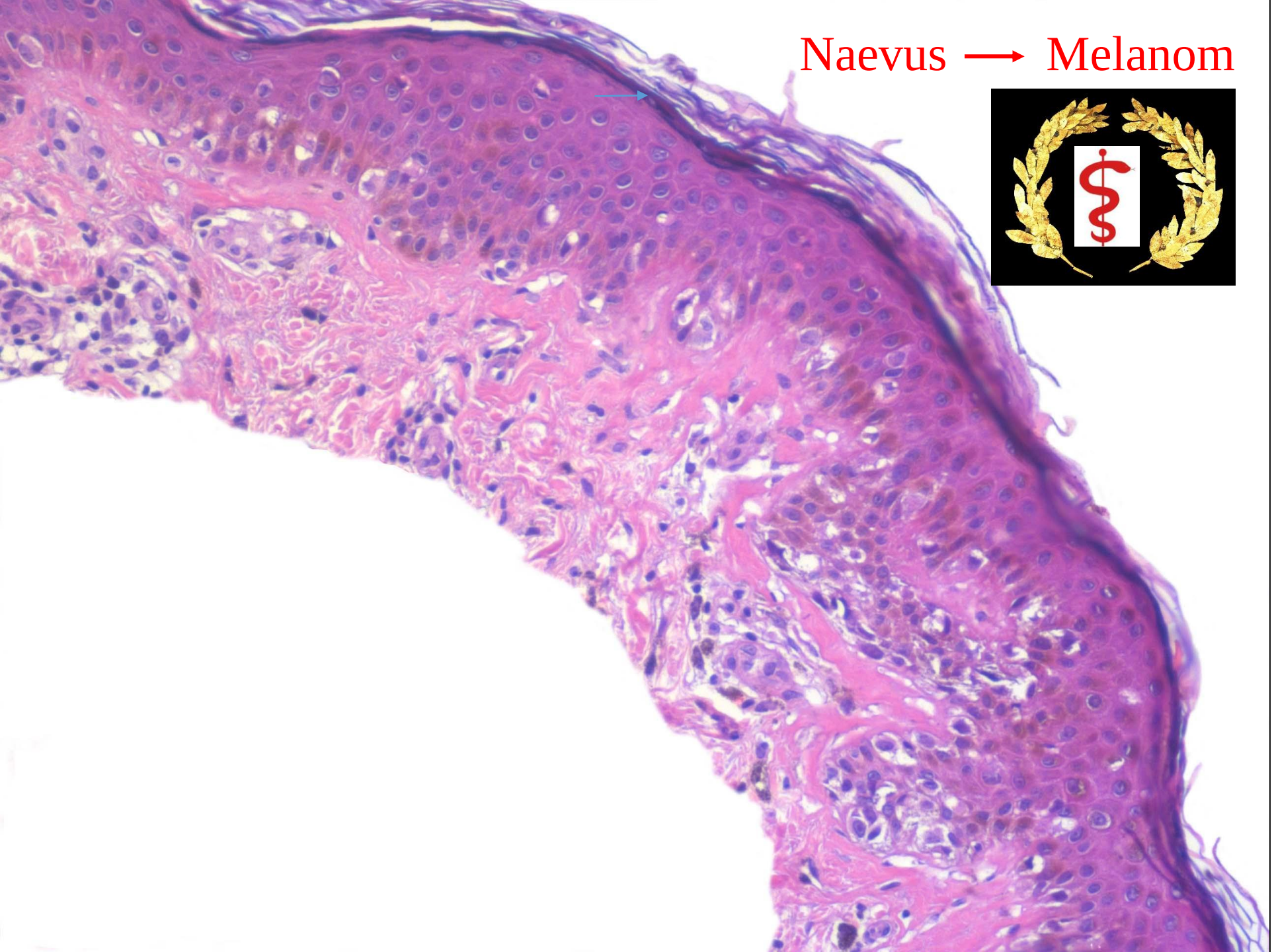
lesions did not have enough time to develop features that make them recognizable. For example, there are no or only few nests in early lesions. Without nests, there is no confluence of nests, and predominance of solitary melanocytes is inevitable.



If the distribution of those melanocytes is slightly irregular,



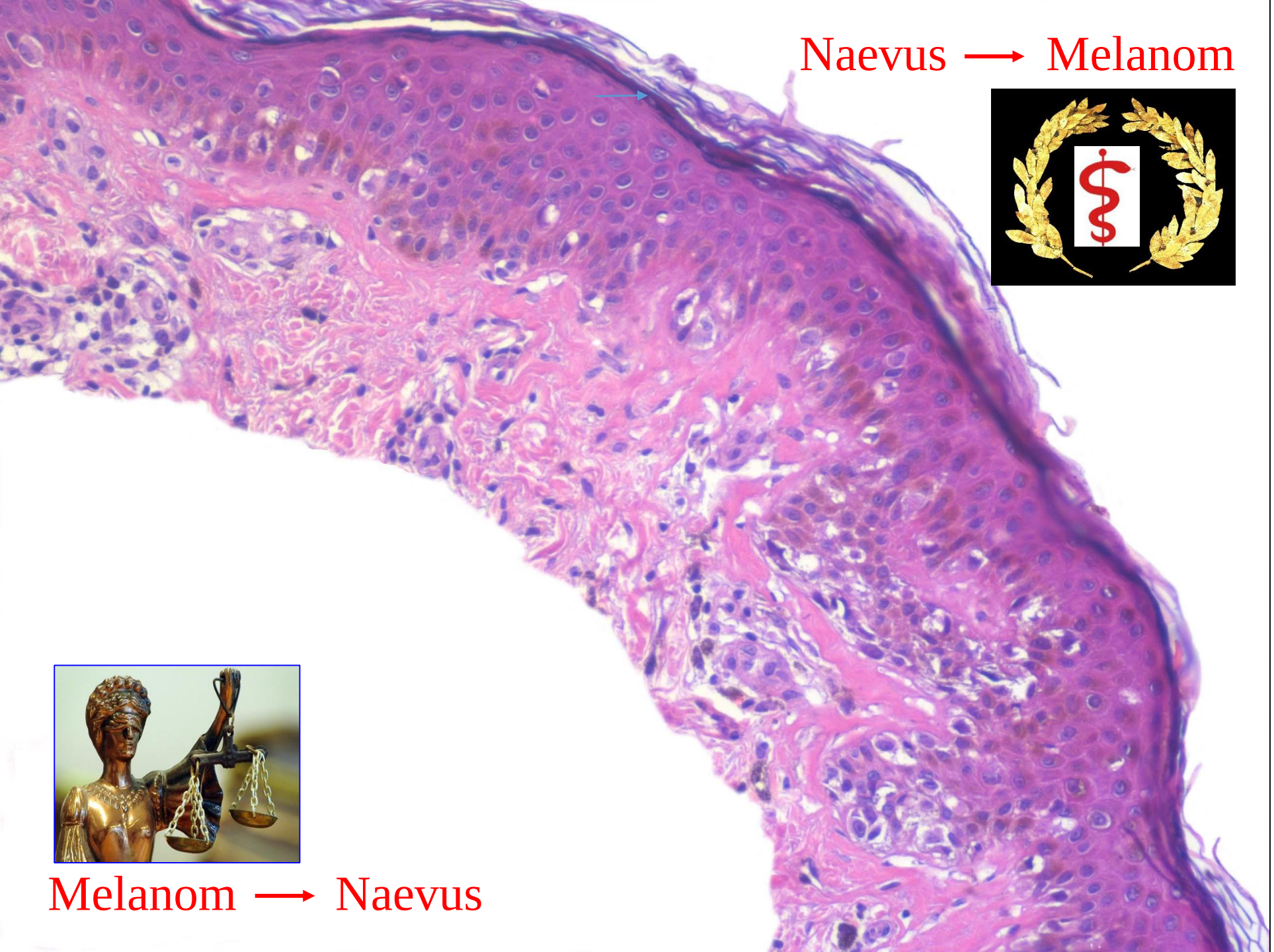
and there are but a few melanocytes above the basal layer, diagnosis becomes a guessing game: This may be a nevus, but a melanoma cannot be ruled out, and because nobody wants to overlook a melanoma, overdiagnoses are so common. Because what happens in the event of error?



Naevus → Melanom

If a benign lesion is classified as malignant, one gets a medical laurel wreath because patients believe they have been saved;

Naevus → Melanom



Melanom → Naevus

if a malignant lesion is classified as benign, a recurrence may occur, and one may be taken to court. This is a strong incentive to err on the malignant side. This is true equally for clinicians and histopathologists,

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Perspectives in Dermatopathology

The melanoma 'epidemic', a dermatopathologist's perspective

Over the past several decades, the rise in melanoma incidence has been termed "epidemic." However, detailed analysis of mortality data suggests that the true incidence of melanoma has not increased dramatically. Dermatopathologists, who hold a key position in the diagnosis of melanoma, should have unique insight into this quandary. Factors contributing to the apparent melanoma epidemic likely include intense screening, sampling of earlier lesions, medical-legal pressures, imperfect diagnostic methodology, and lack of a usable gold standard. Consequences of the apparent melanoma epidemic are also explored herein.

Keywords: melanoma, epidemic, pathology, dysplastic nevus

Glusac EJ. The melanoma 'epidemic', a dermatopathologist's perspective.
J Cutan Pathol 2011; 38: 264–267. © 2011 John Wiley & Sons A/S.

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and the so-called *"melanoma 'epidemic'"* is probably caused, in part,

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I believe that the overdiagnosis of melanoma is arguably the most difficult problem that we face in dermatopathology today.

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by *"overdiagnosis of melanoma"* to which Earl Glusac referred as *"arguably the most difficult problem that we face in dermatopathology today."*

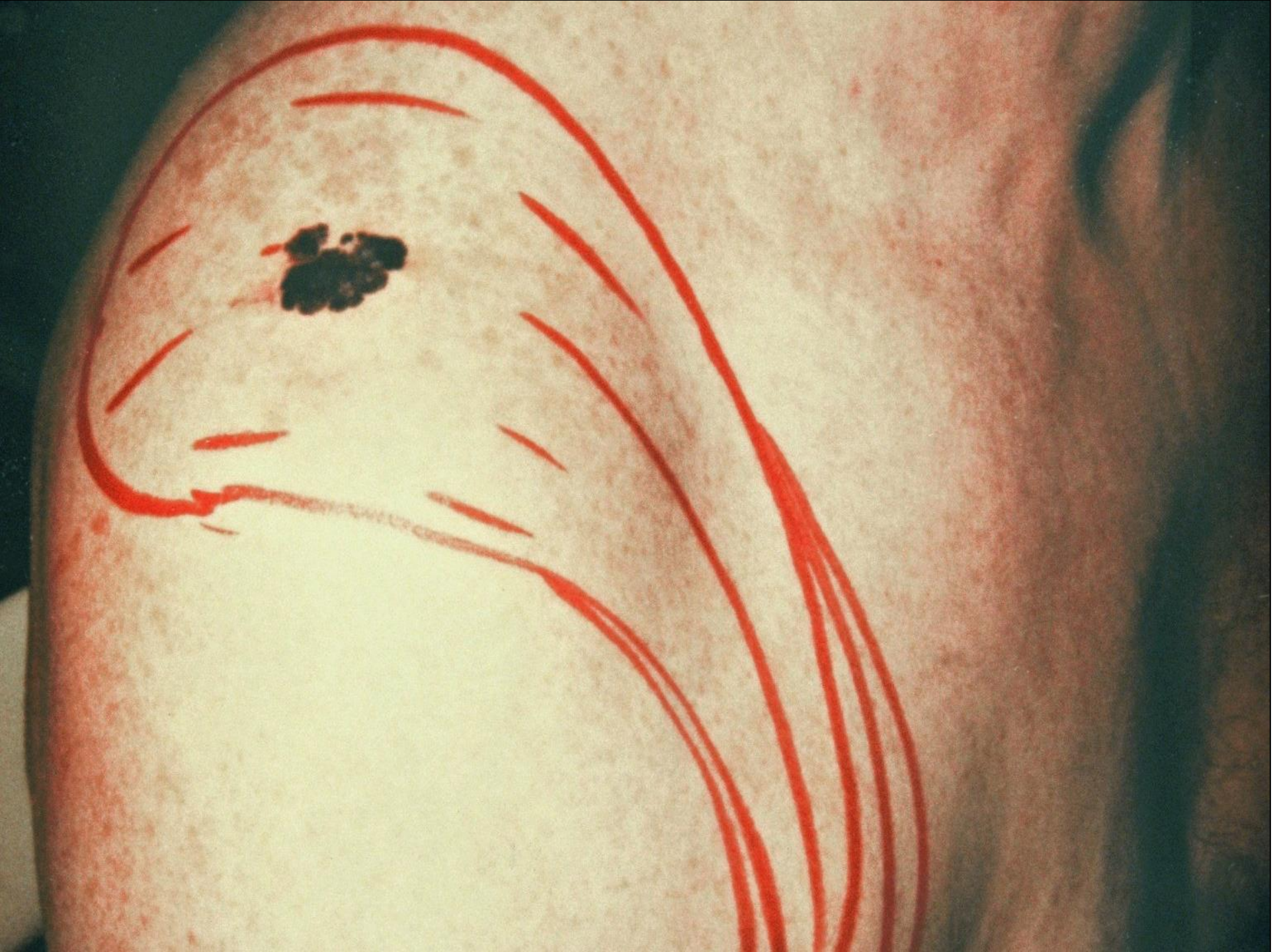
Of course, overdiagnosis cannot be ommitted completely, but, for the most part, this is self-made problem,

- Unnecessary biopsies of countless benign lesions
- Enhanced risk of histopathologic misdiagnosis
- Reduced quality of biopsies as a result of enhanced frequency

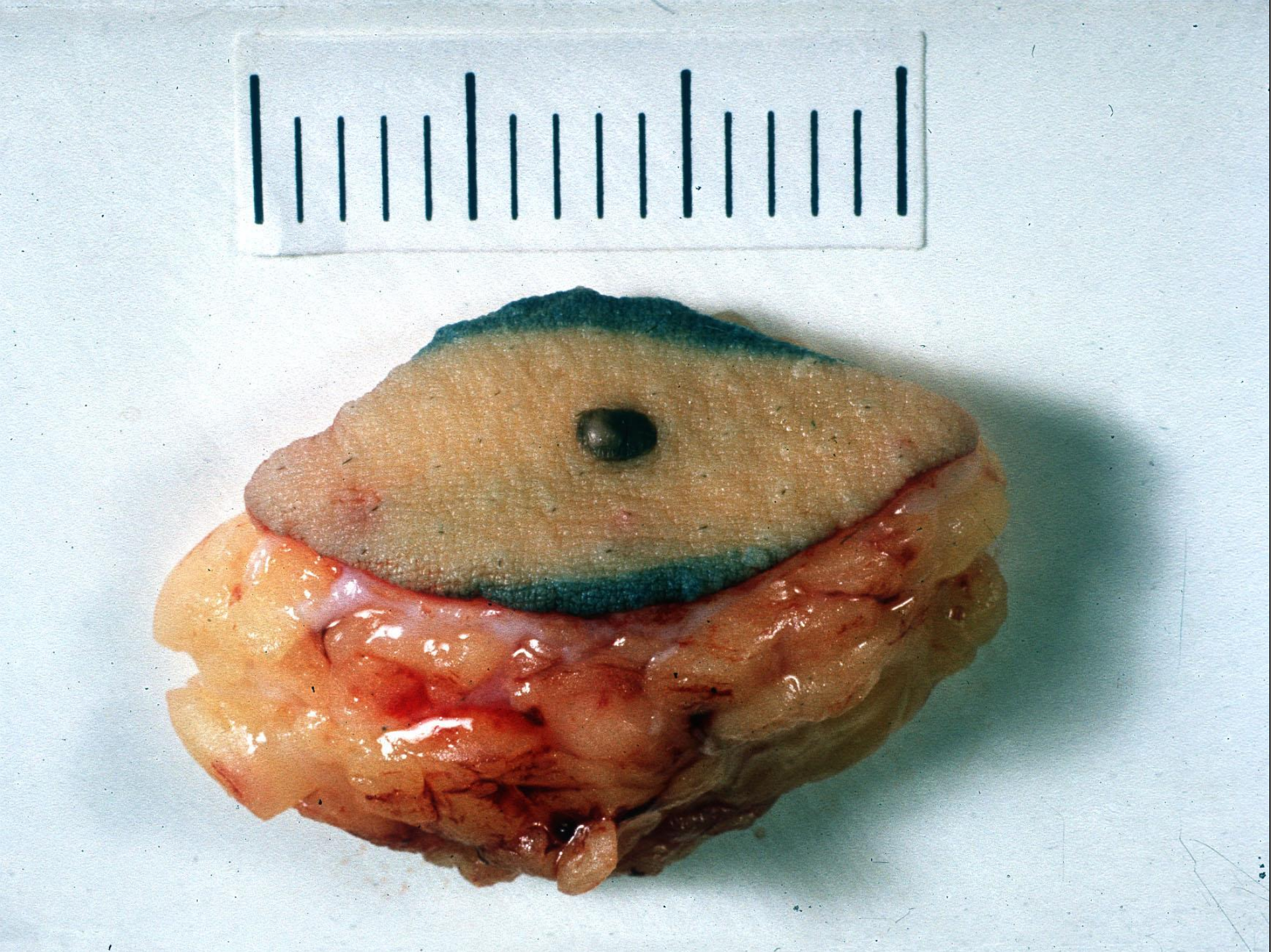
a consequence of the reduced quality of biopsies as a result of enhanced frequency of them. The more biopsies are performed, the less time can be devoted to them; even a suture is too laborious, and so we have arrived

in the era of minuscule biopsies.

How was that possible? The main reason was changes in biopsy practices of melanocytic neoplasms.



Only a few decades ago, melanomas were practically always excised with a wide margin because of fear of disseminating tumor cells through the surgical procedure.



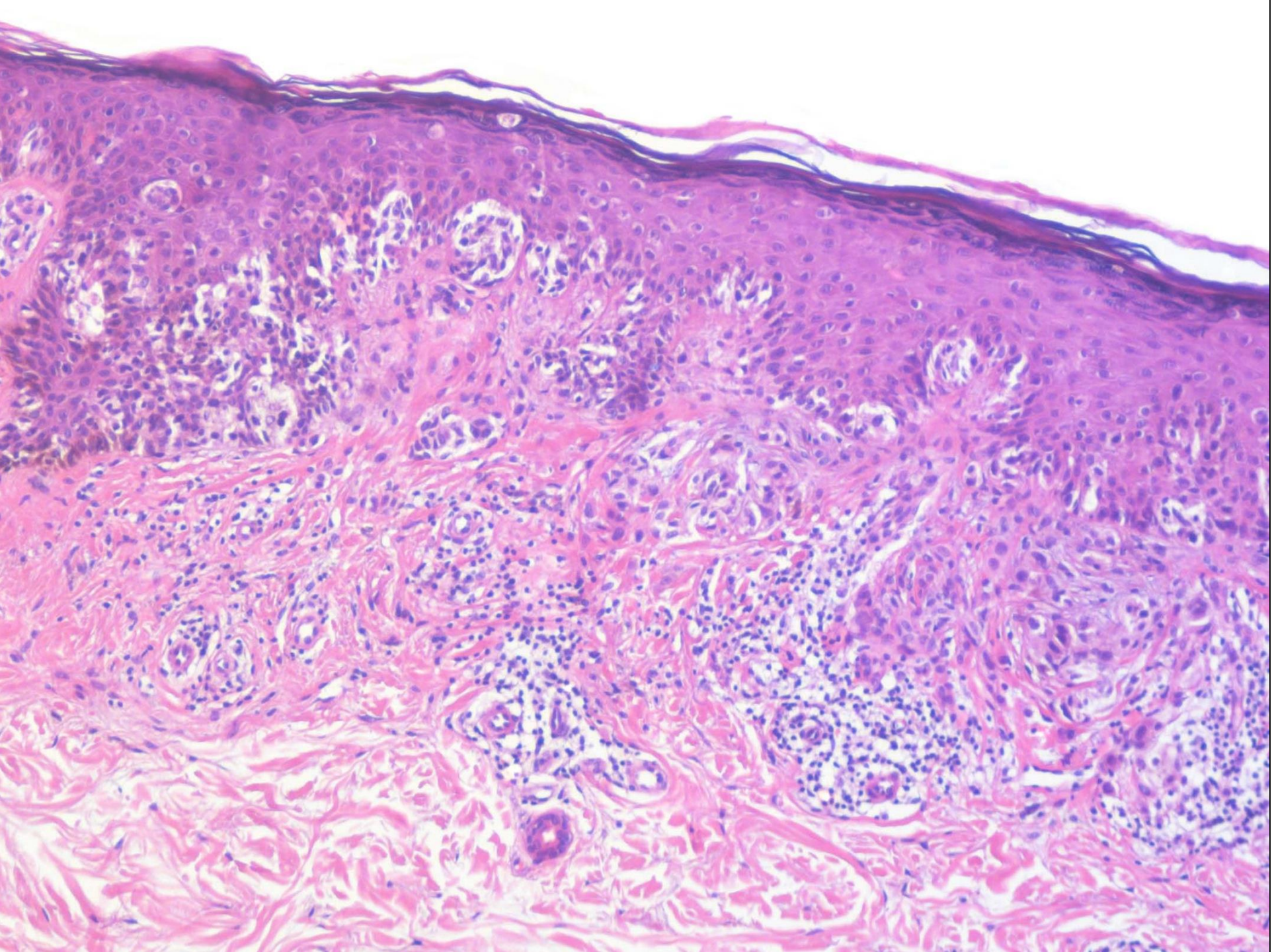
Wide excisions were performed even if there was only a vague suspicion of melanoma. This changed when incisional biopsies were shown to be safe.

Does biopsy type influence survival in clinical Stage I cutaneous melanoma?

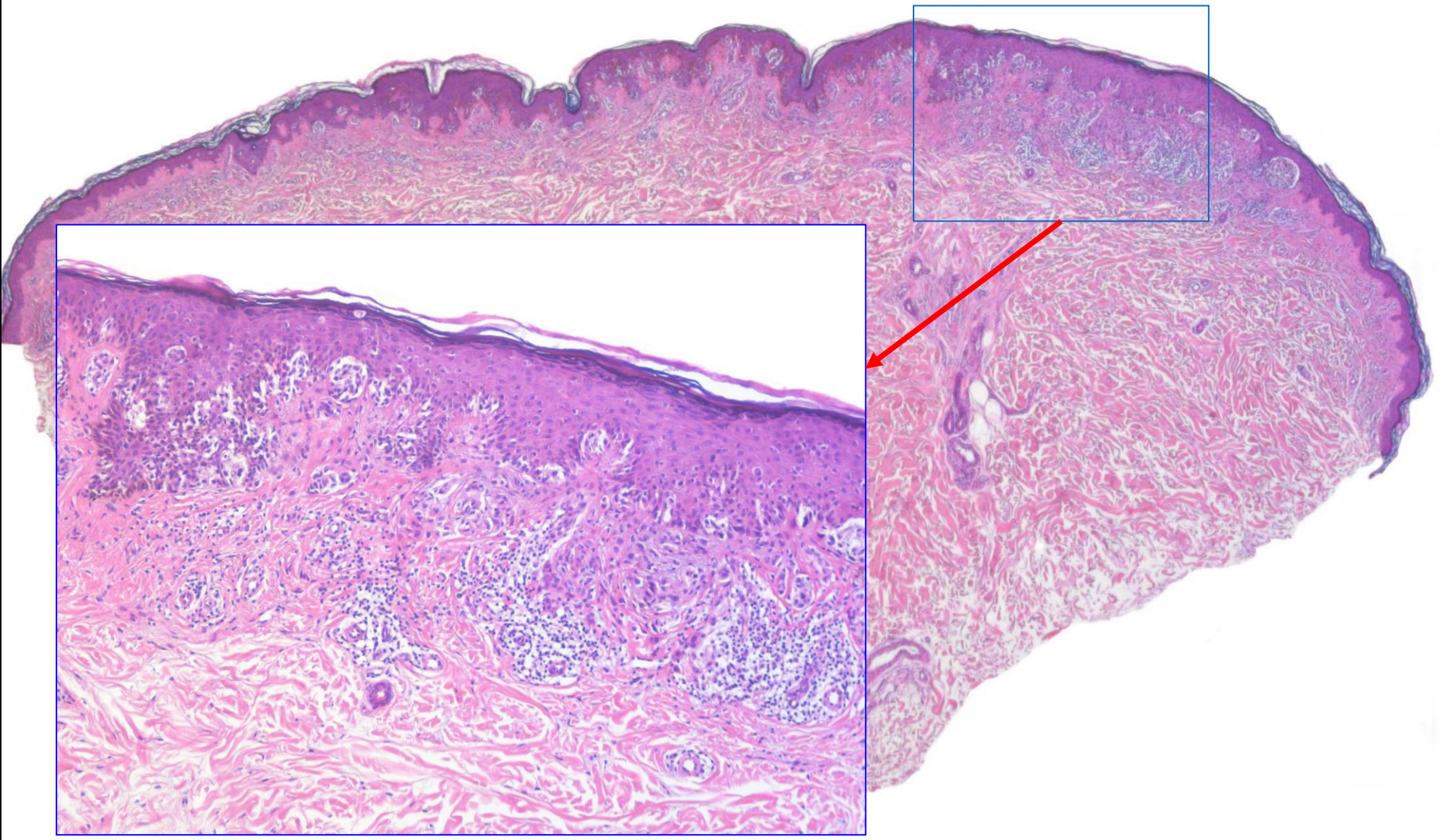
Josiane S. Lederman, M.D., and Arthur J. Sober, M.D. *Boston, MA*

A total of 472 patients with clinical Stage I cutaneous melanoma were analyzed to determine influence of type of diagnostic biopsy on survival. Of these patients, 119 had had an incisional biopsy (either punch or incision) and 353 had an excisional biopsy. Patients were grouped by thickness category and outcome compared between the biopsy types. Within each thickness category, there is no statistically significant difference in survival between the two groups. The observation that none of the seventy-six patients with primary tumors <1.70 mm have died following incisional biopsy strongly argues against any deleterious effect of incisional biopsy in this group. Alternatively, if the two highest-risk groups (≥1.70 mm) are analyzed as a single group, an adverse effect is seen in the incisional biopsy group ($p < 0.05$). However, when the data from these groups are subjected to multivariate analysis, biopsy type is not a significant factor in the model. This study shows that either biopsy method may be used in first evaluating patients with suspected melanoma. (J Am Acad Dermatol **13**:983-987, 1985.)

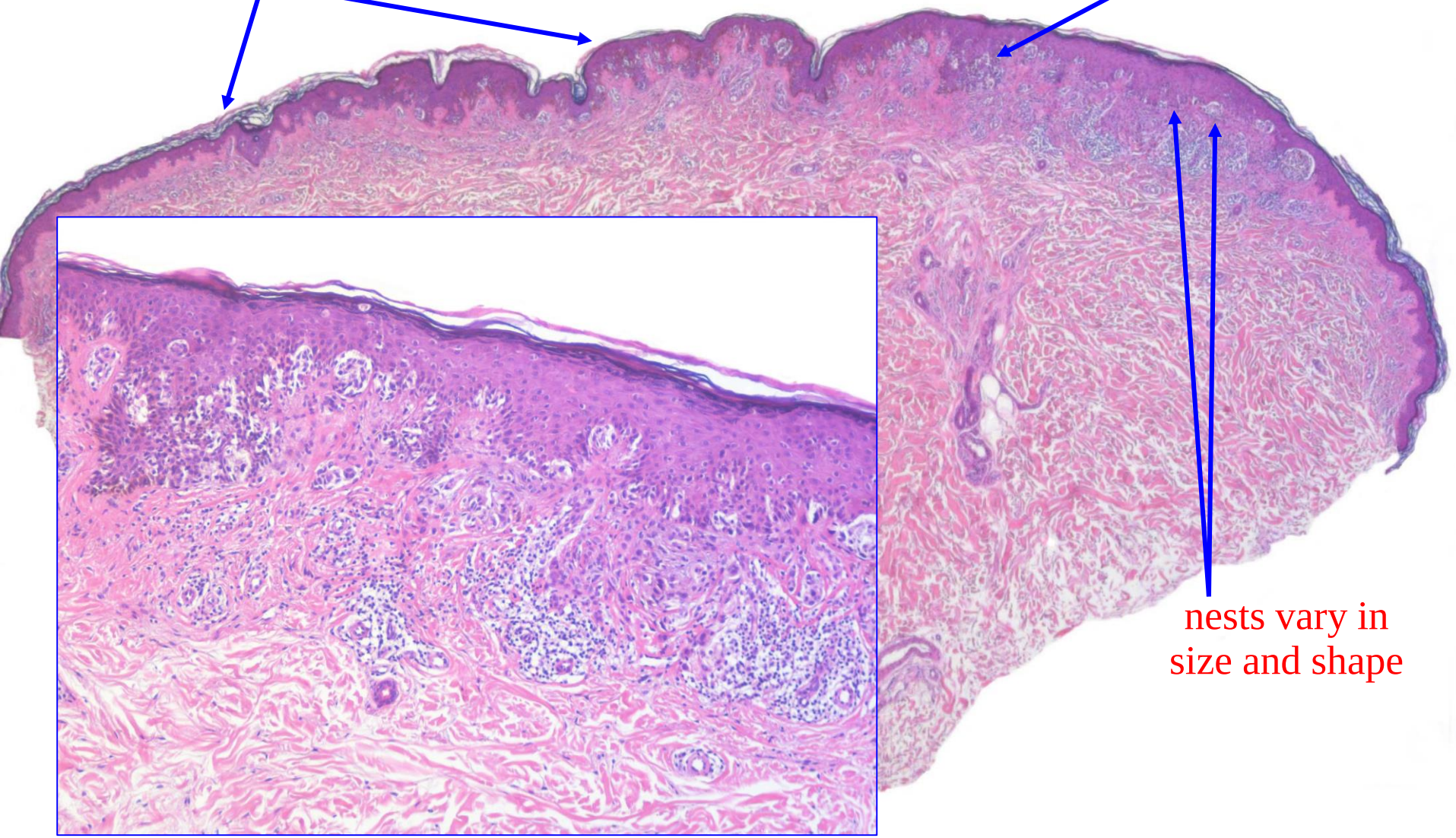
In 1985, Lederman and Sober found *"no statistically significant difference in survival"* compared to excision, and they concluded that *"either biopsy method may be used in first evaluating patients with suspected melanoma."* However, they considered only survival and turned a blind eye to diagnostic difficulties.



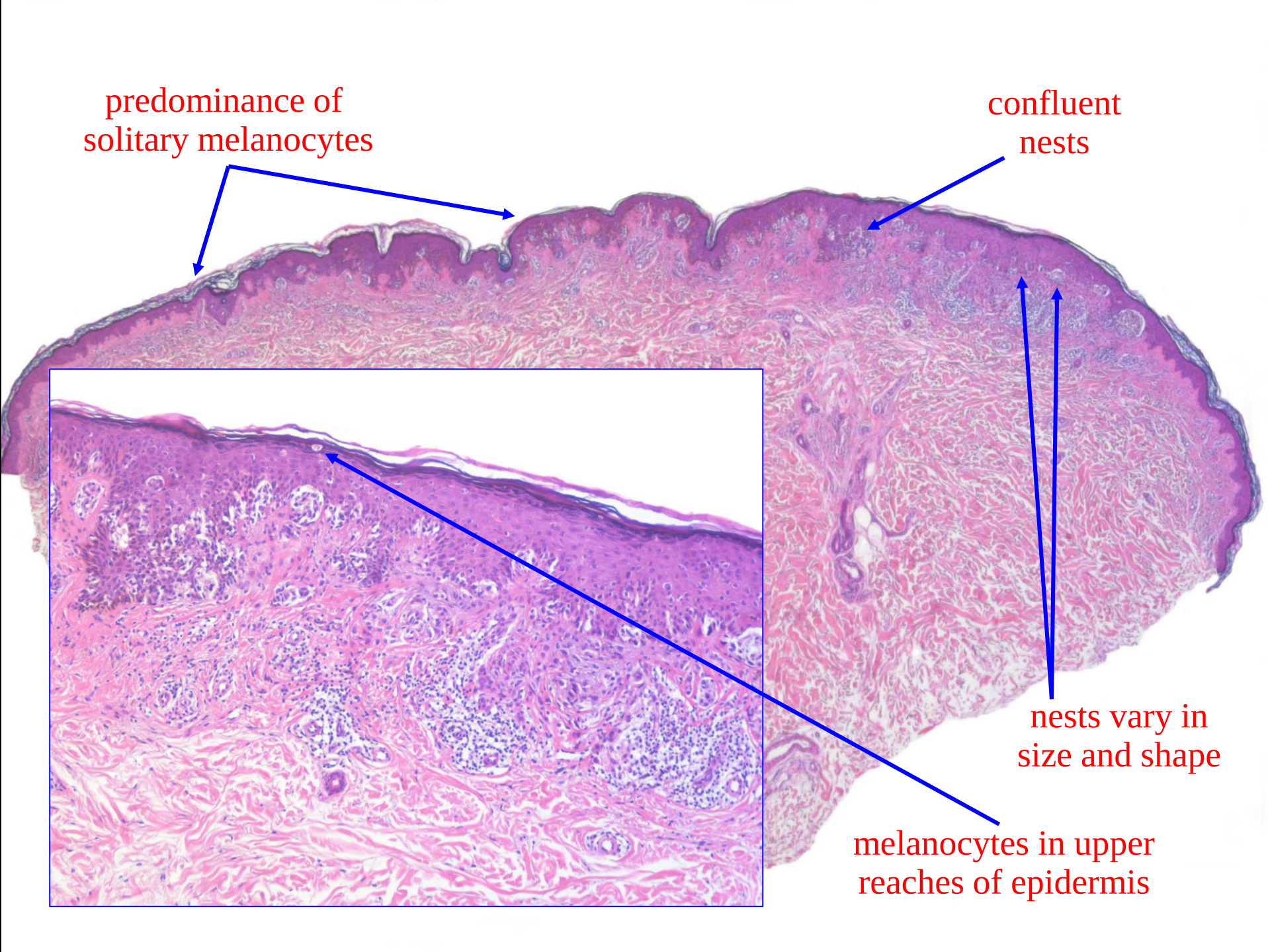
One problem in the histopathologic diagnosis of melanoma is the limited significance of cytologic aspects; nevi may show striking nuclear atypia, whereas nuclear atypia usually minimal in early melanomas.



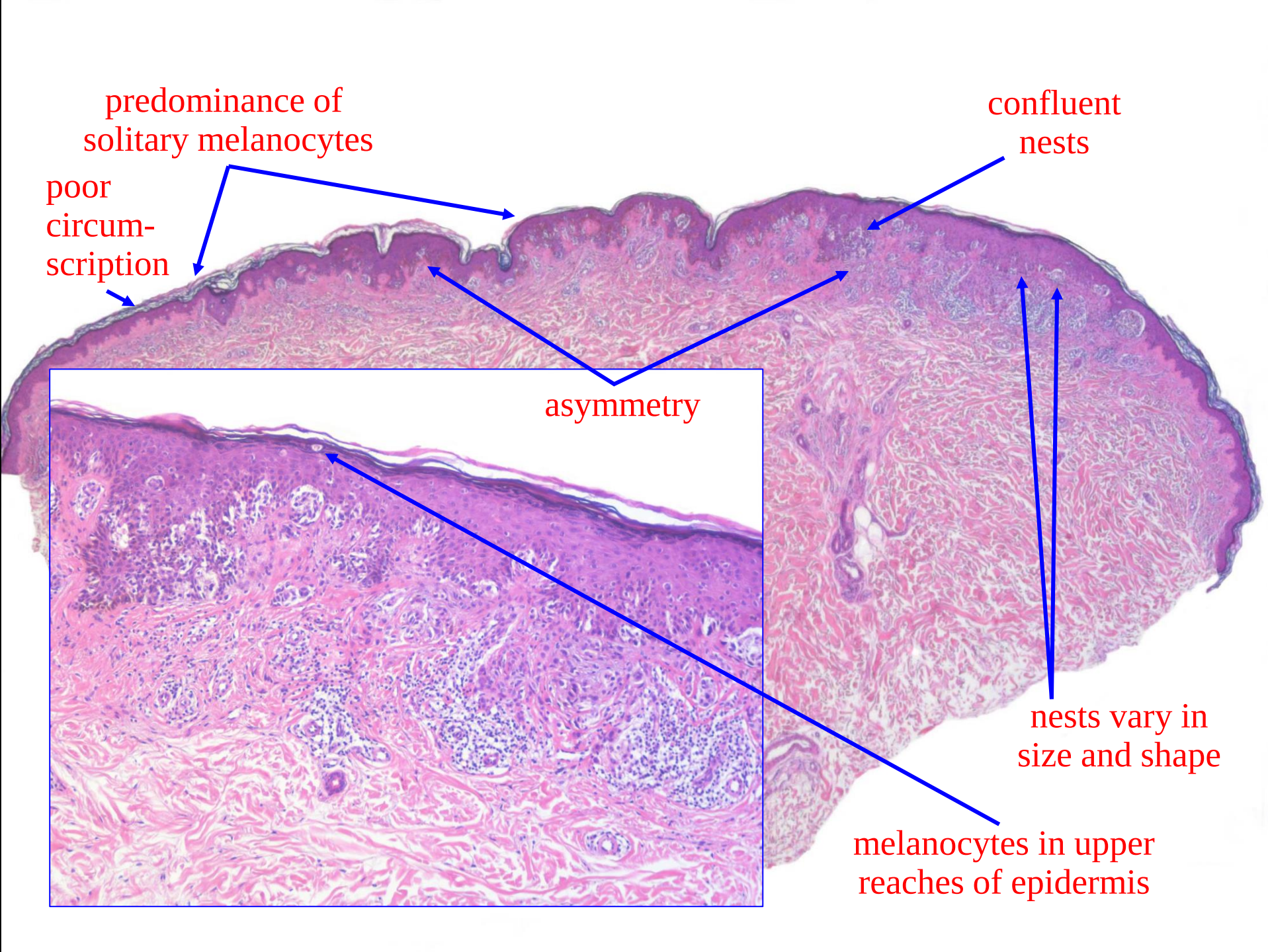
For that reason, architectural feature are essential for diagnosis. In this melanoma, for example,



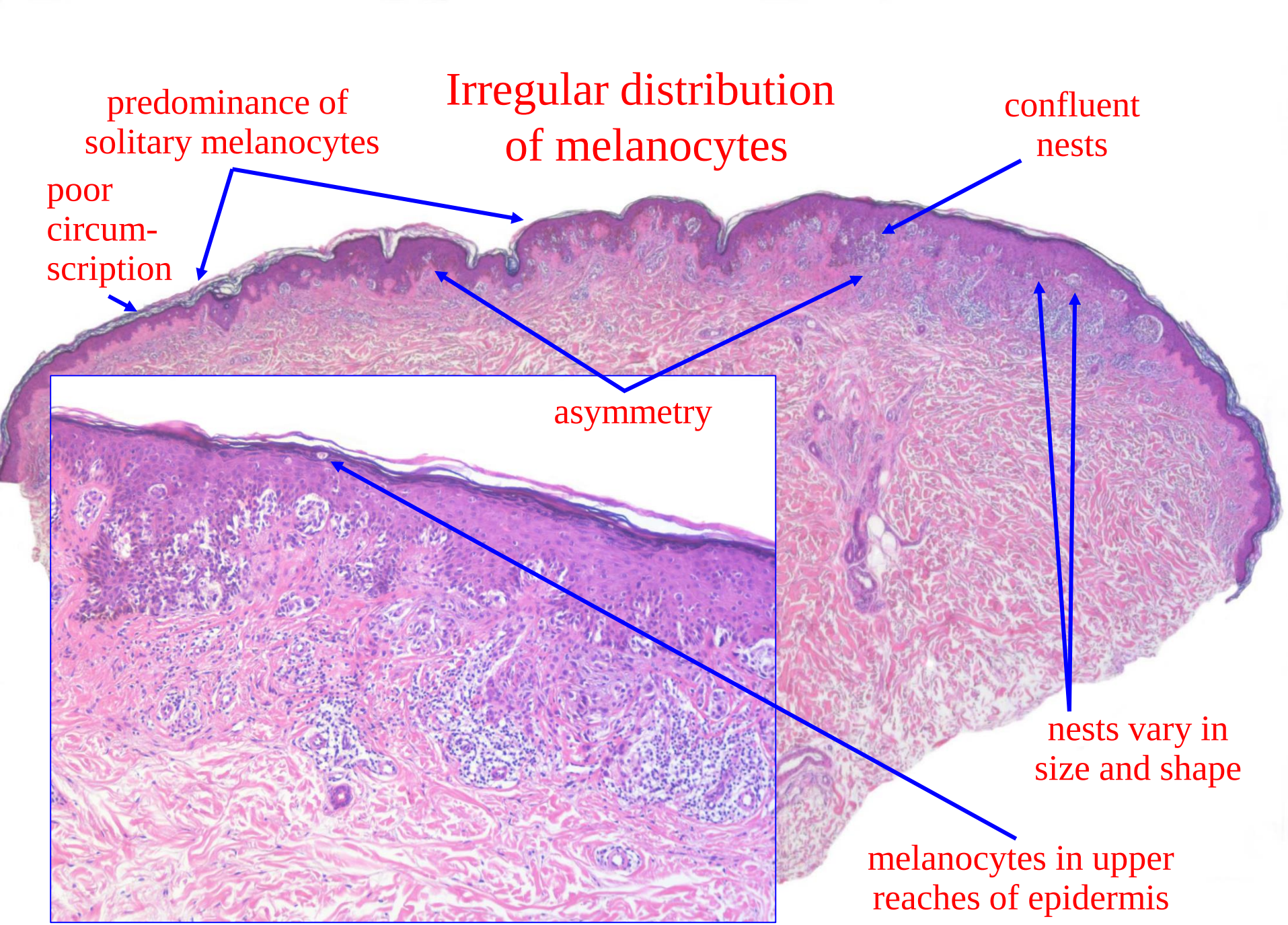
nests vary in size and shape and have become confluent, solitary melanocytes predominate in foci,



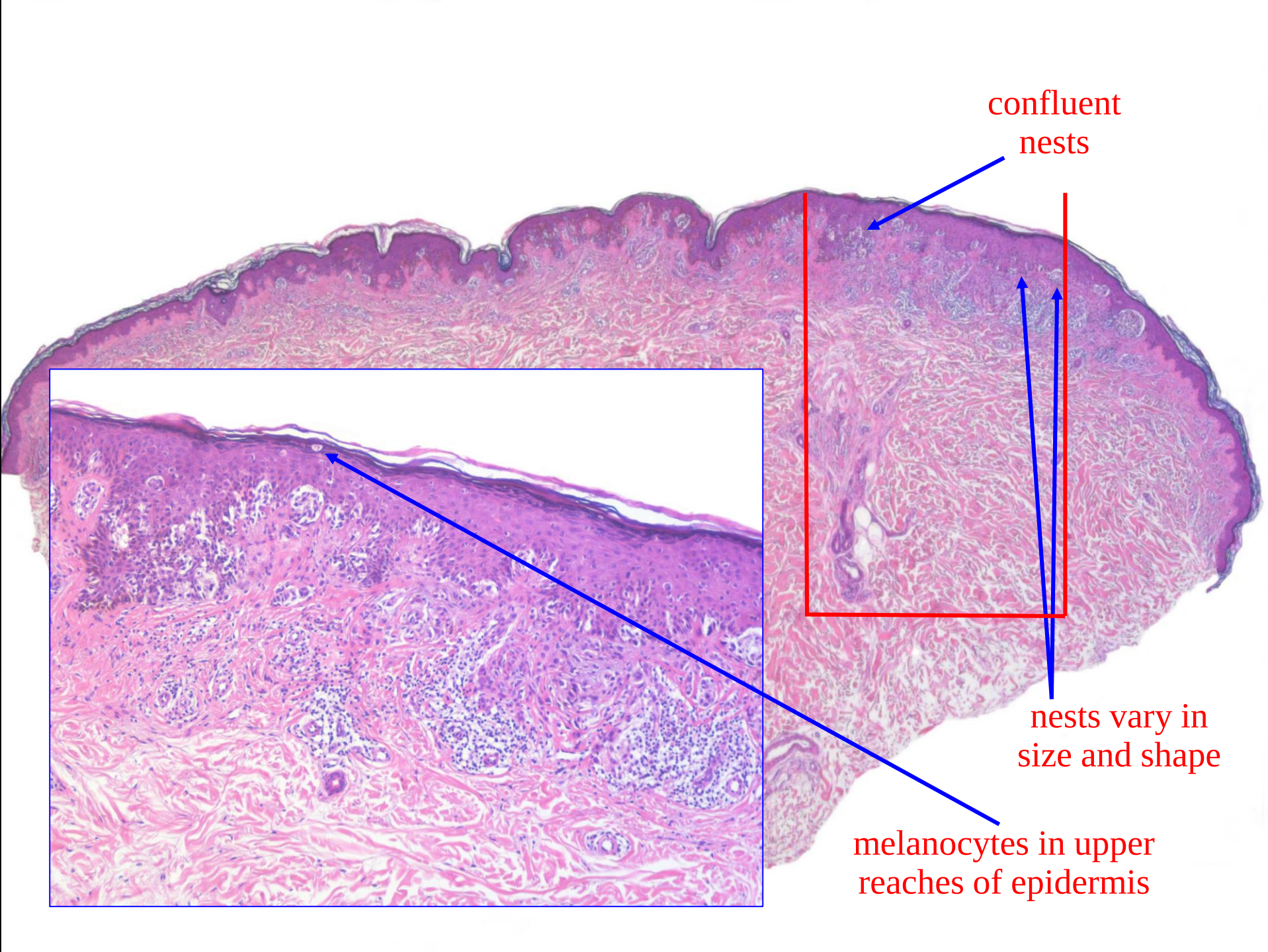
nd there are melanocytes in the upper reaches of the epidermis.



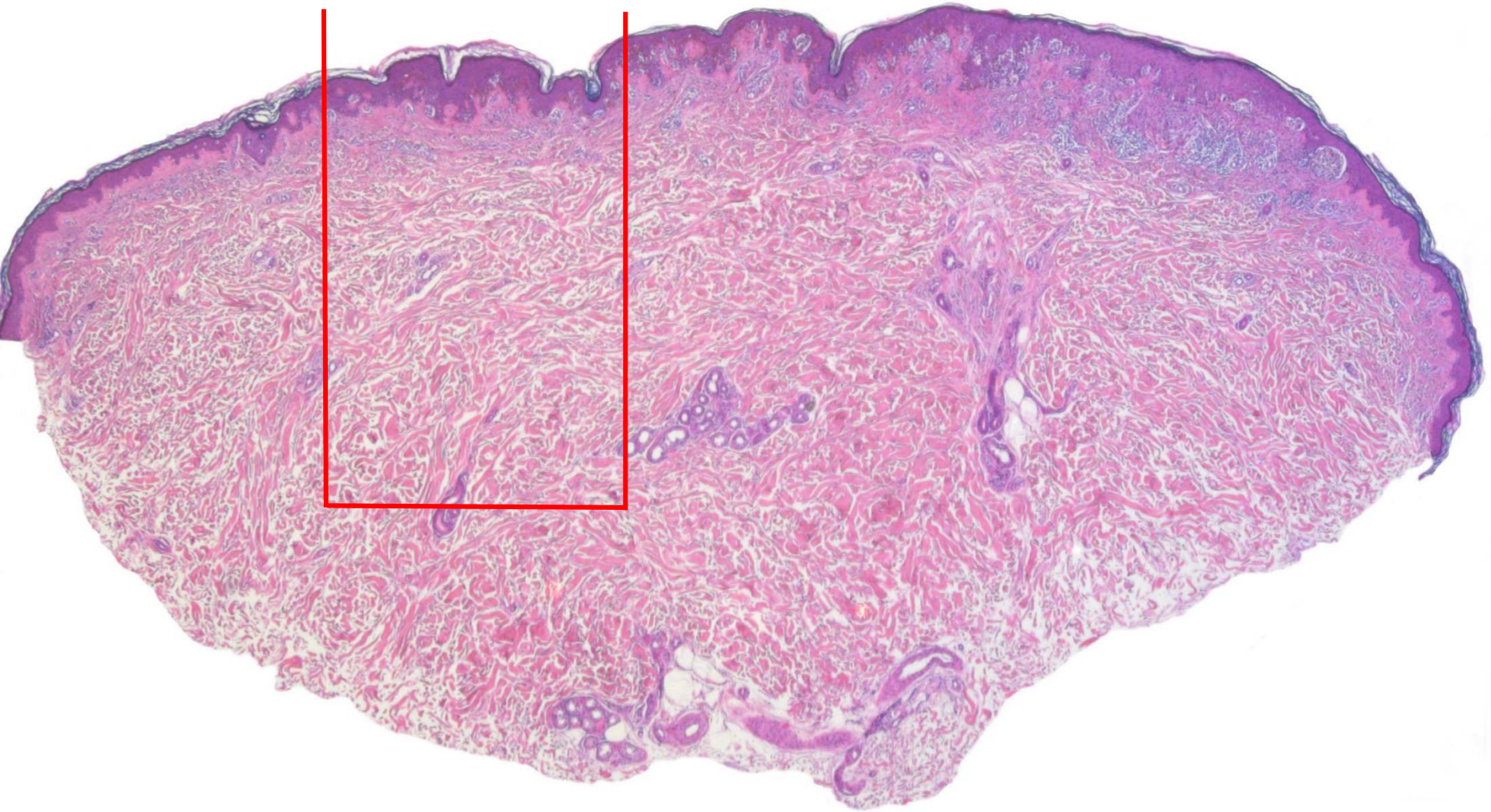
Moreover, the lesion is strikingly asymmetrical and poorly circumscribed by solitary melanocytes.



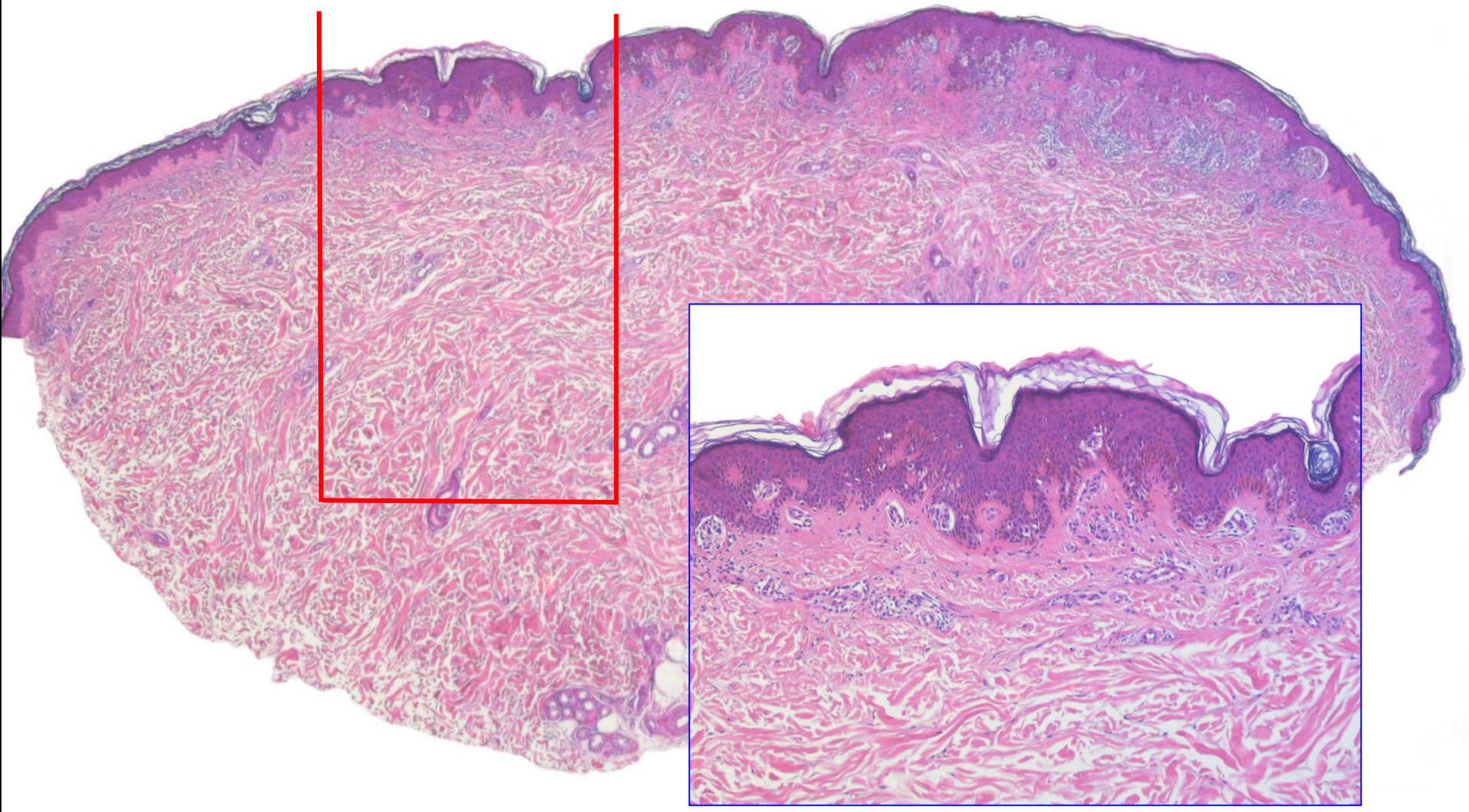
Most importantly, melanocytes are distributed unevenly: there are a few large nests at the edge, then small confluent nests, then solitary melanocytes, then nests again, then solitary melanocytes. The fluctuating architectural pattern is a direct consequence of biologic behavior, namely, irregular growth, and far more important for diagnosis than cytologic features. It can be assessed only if the lesion in not too small,



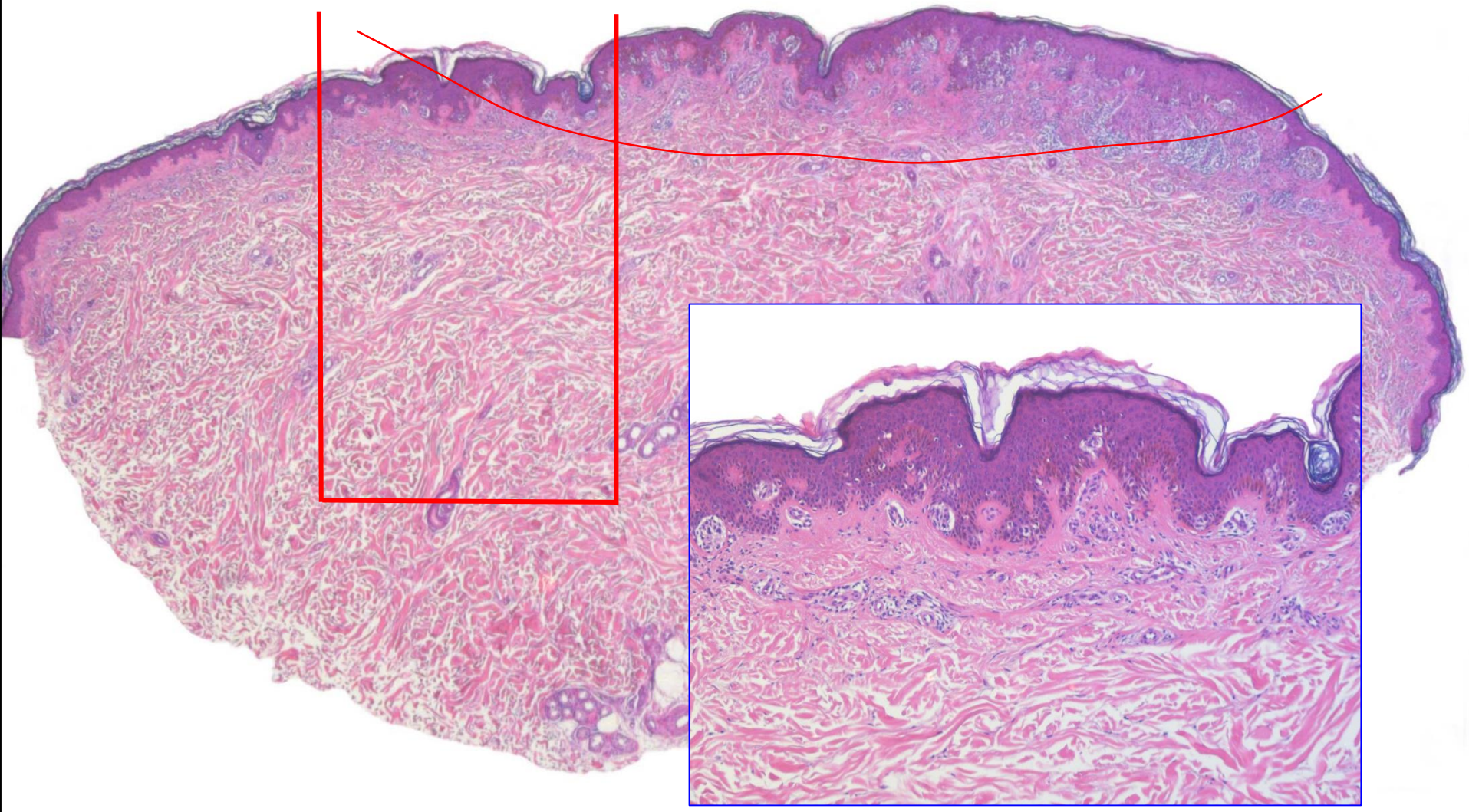
and if the biopsy is not too small. In a punch biopsy, the majority of criteria cannot be assessed. Those that remain may still allow a correct diagnosis to be made, but if, by chance,



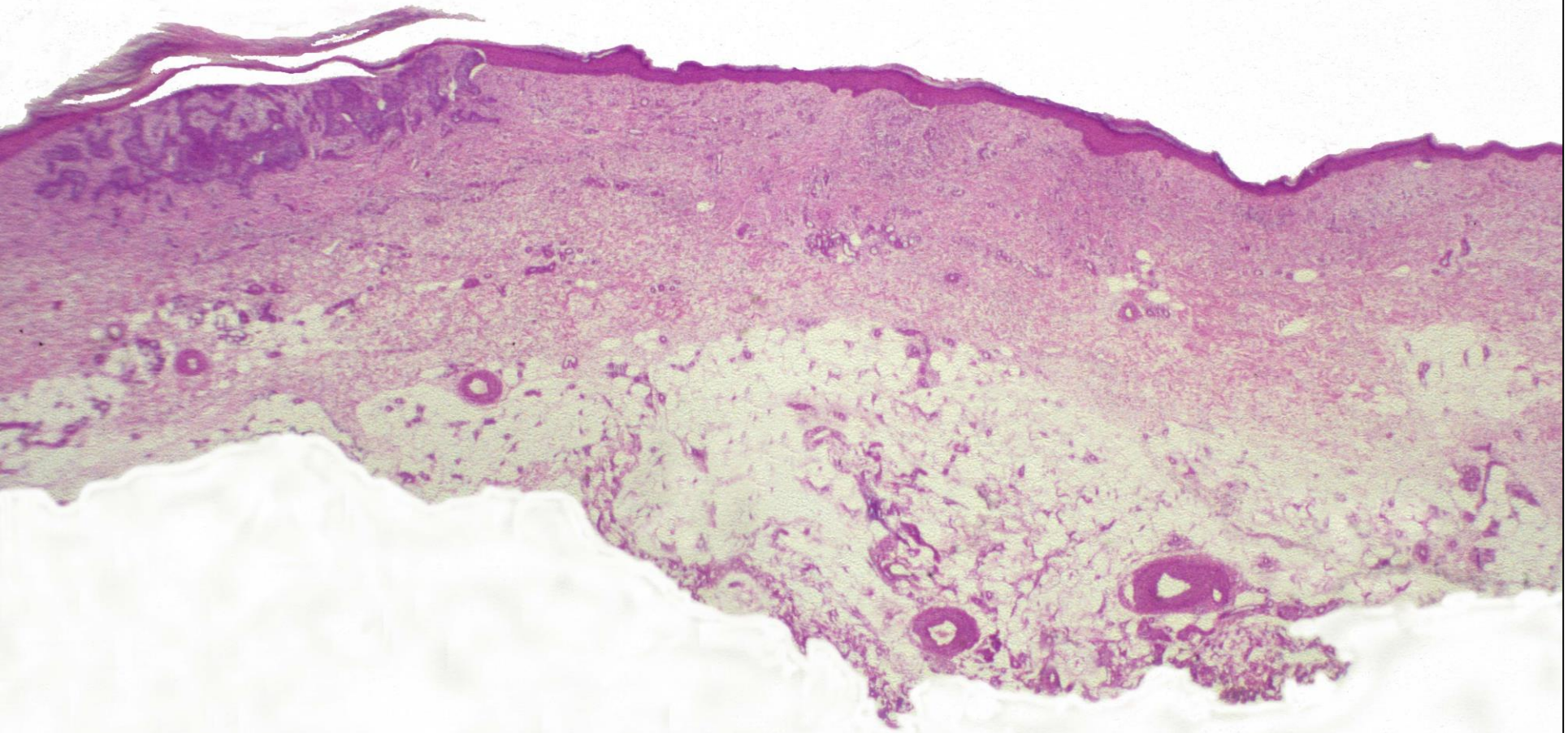
an area is sampled in which there are no diagnostic findings, the risk of misinterpretation is substantial.



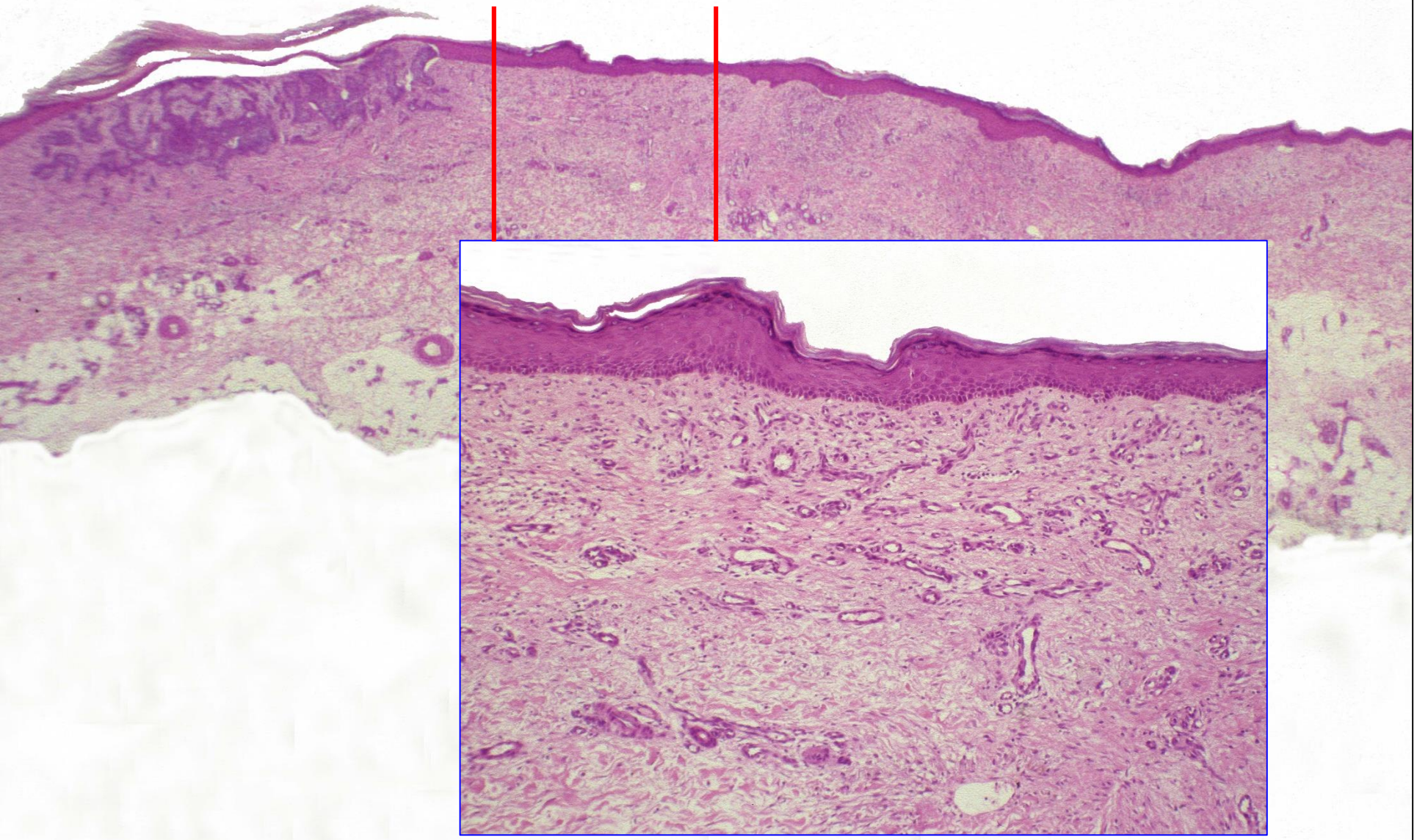
In an area such as this one, composed nearly exclusively of tiny nests of small melanocytes at the dermo-epidermal junction, misdiagnosis as a nevus in almost inevitable.
Nearly all criteria for diagnosis of melanoma pertain to changes in the epidermis. The dermis reveals practically no information. This is why, in the case of an incisional biopsy,



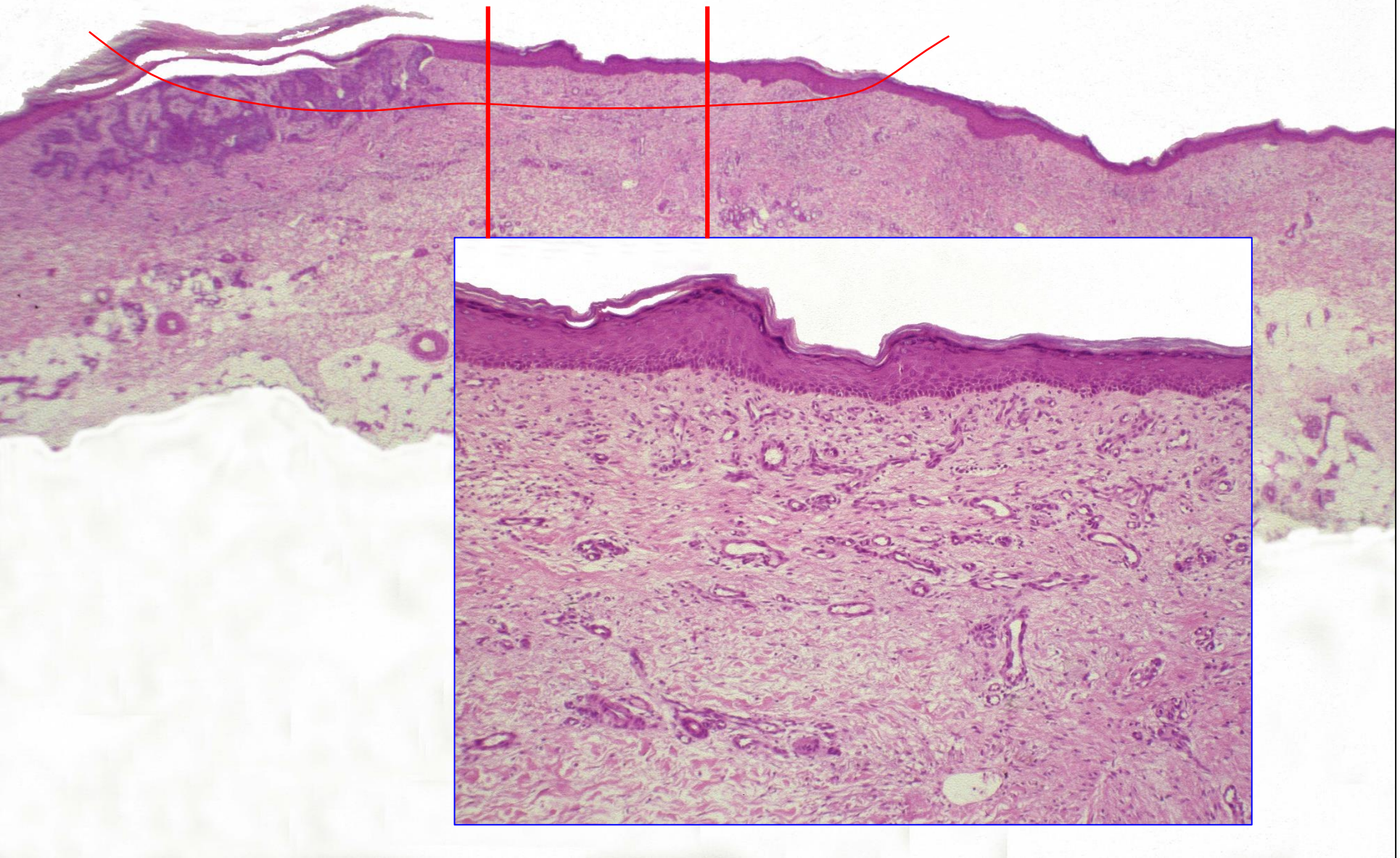
a broad shave is preferable to a punch. The same is true for other superficial neoplasms.



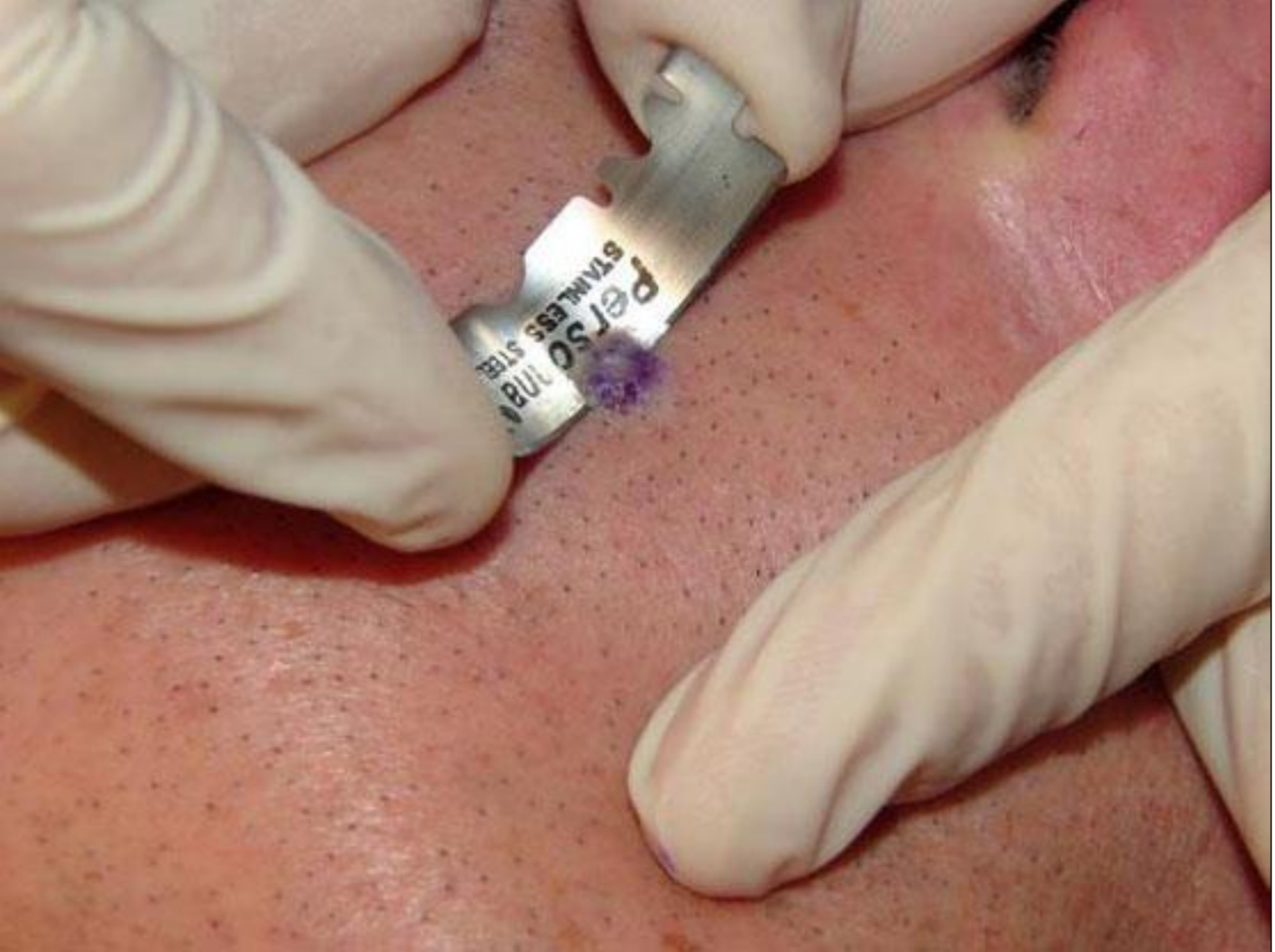
For example, basal-cell carcinoma often shows large zones of regression.



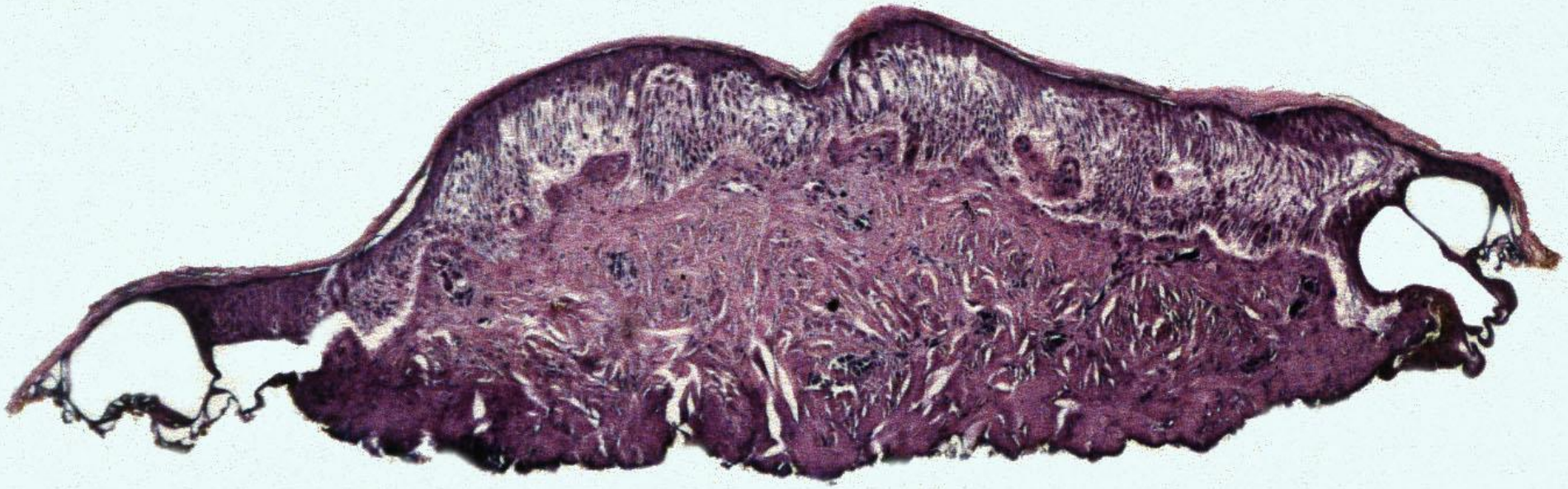
In a punch biopsy, one often sees only granulation tissue.



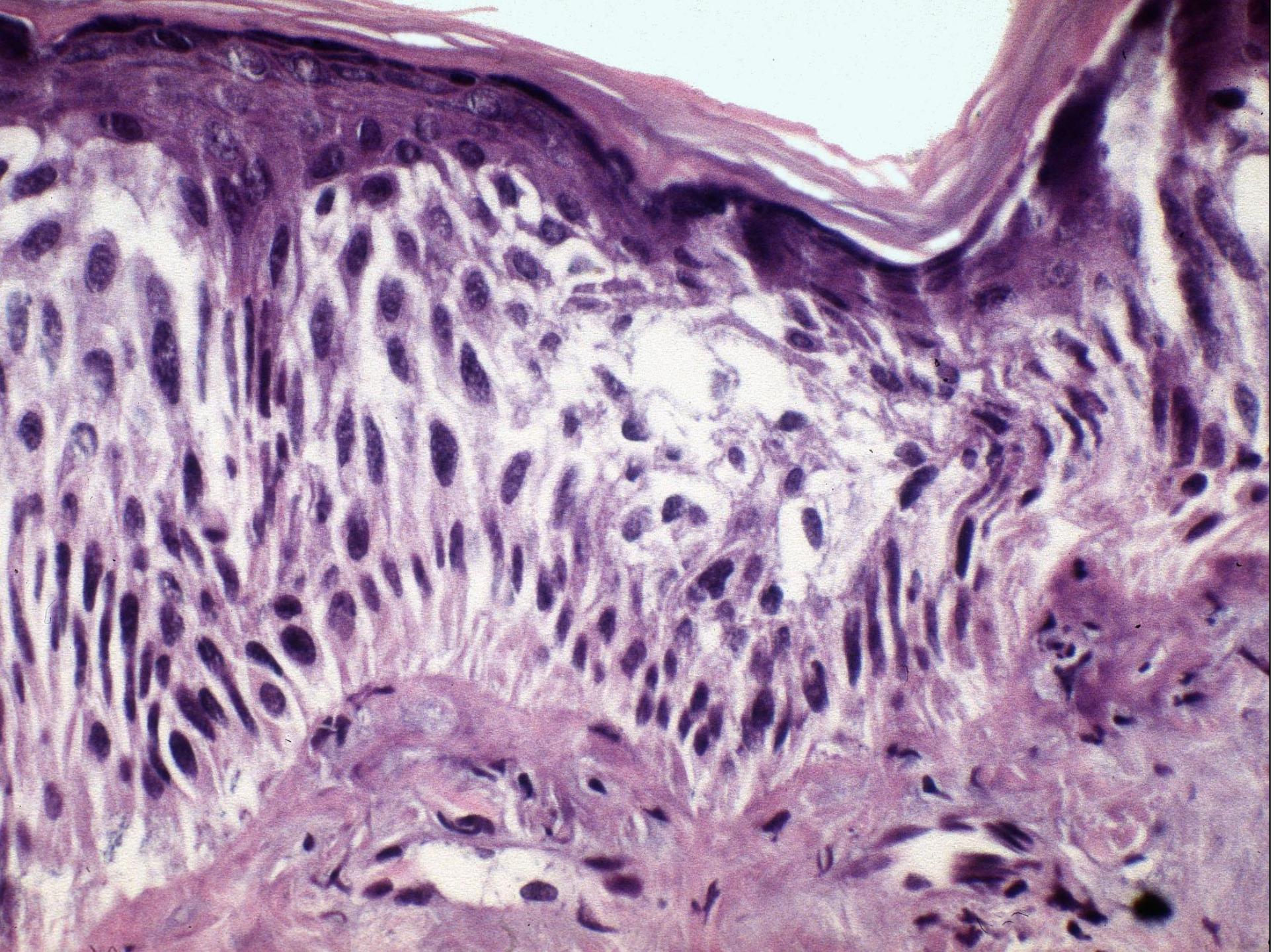
The probability to harvest relevant findings is much greater with a shave.



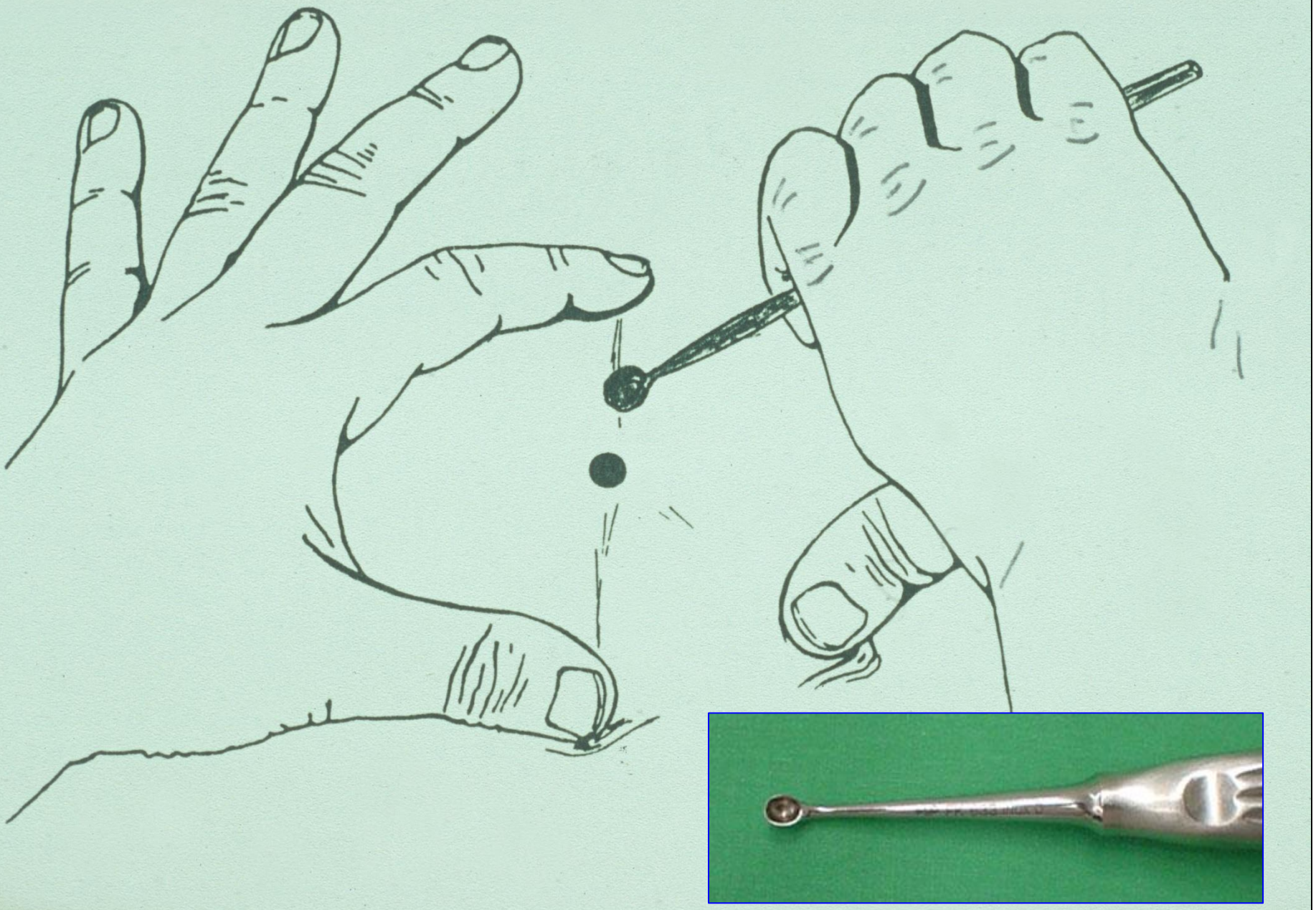
Shave biopsies with a sharp knife are preferable to all other techniques for superficial removal of tissue.



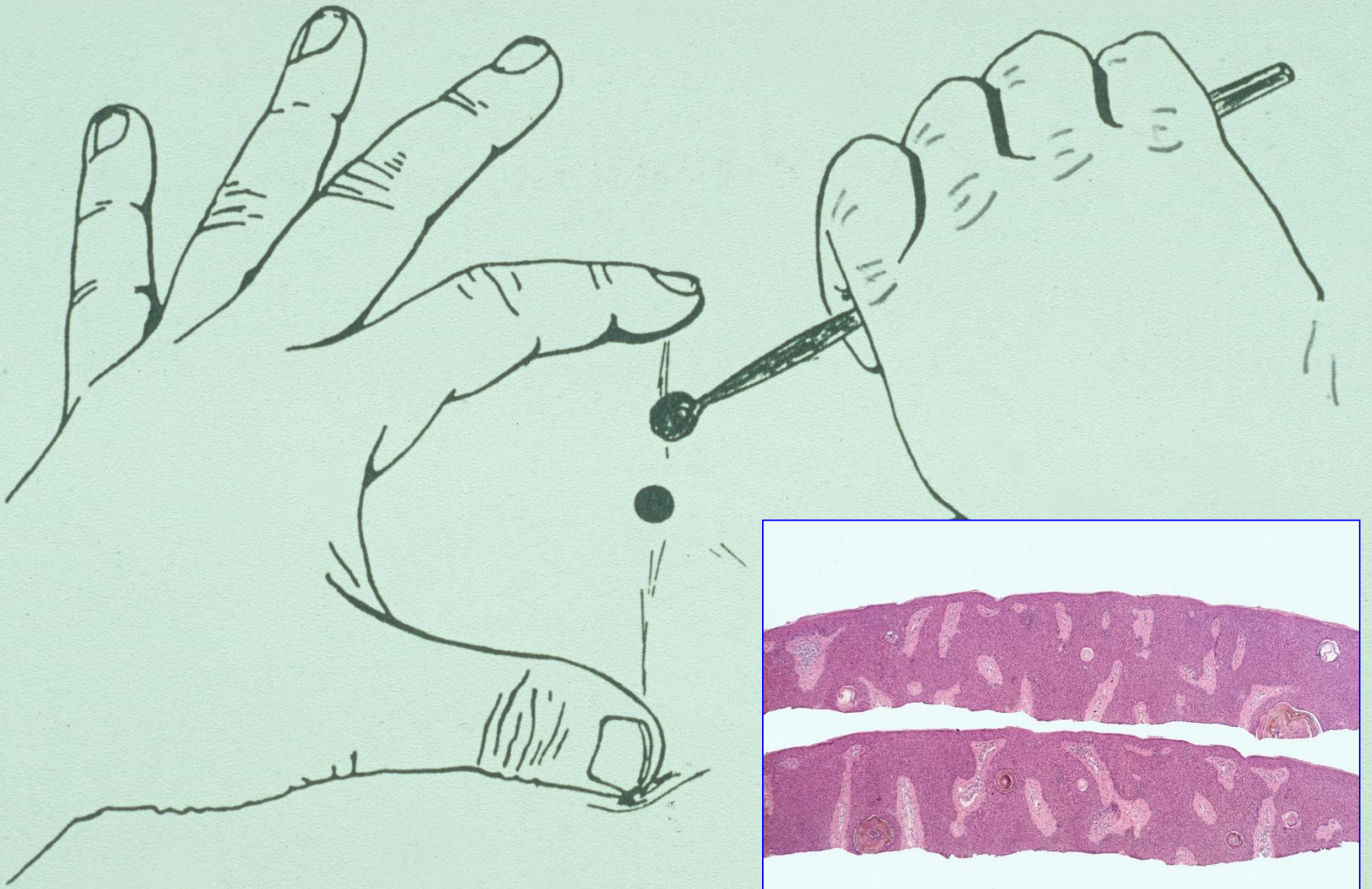
Electrodissecation should never be used because it is associated with massive artifacts caused by electric current;



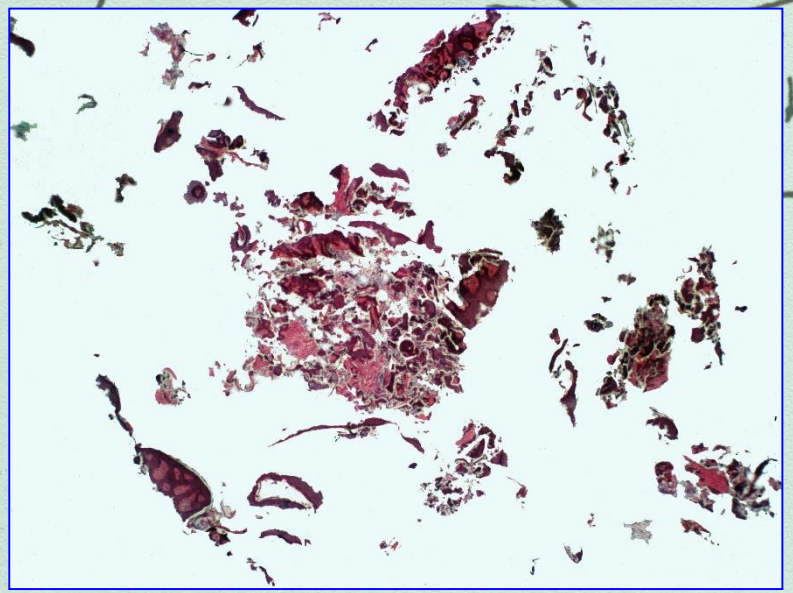
those so-called stringbean-shaped cells are difficult to evaluate, and unexpected changes may be overlooked easily.

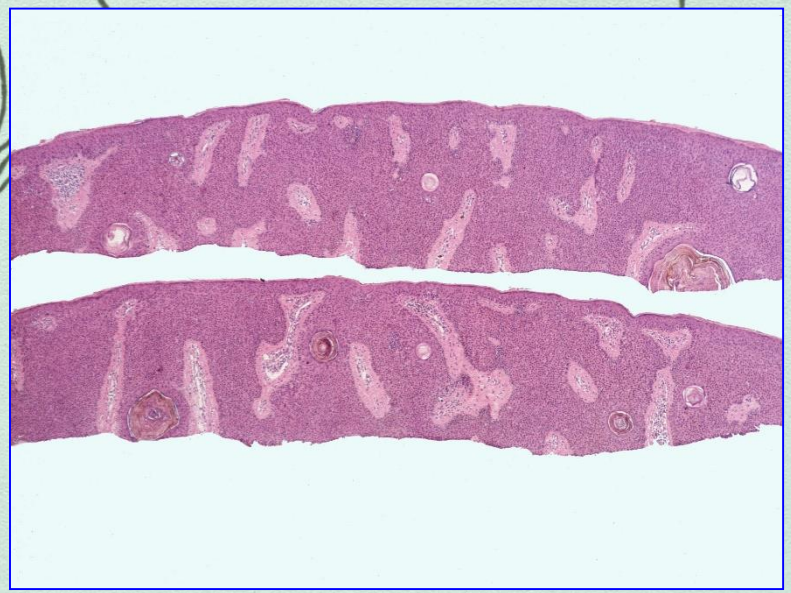


If the curette it chosen, it should be used rigourously in the so-called “potatoe-peeler technique” that allows to exert pressure.

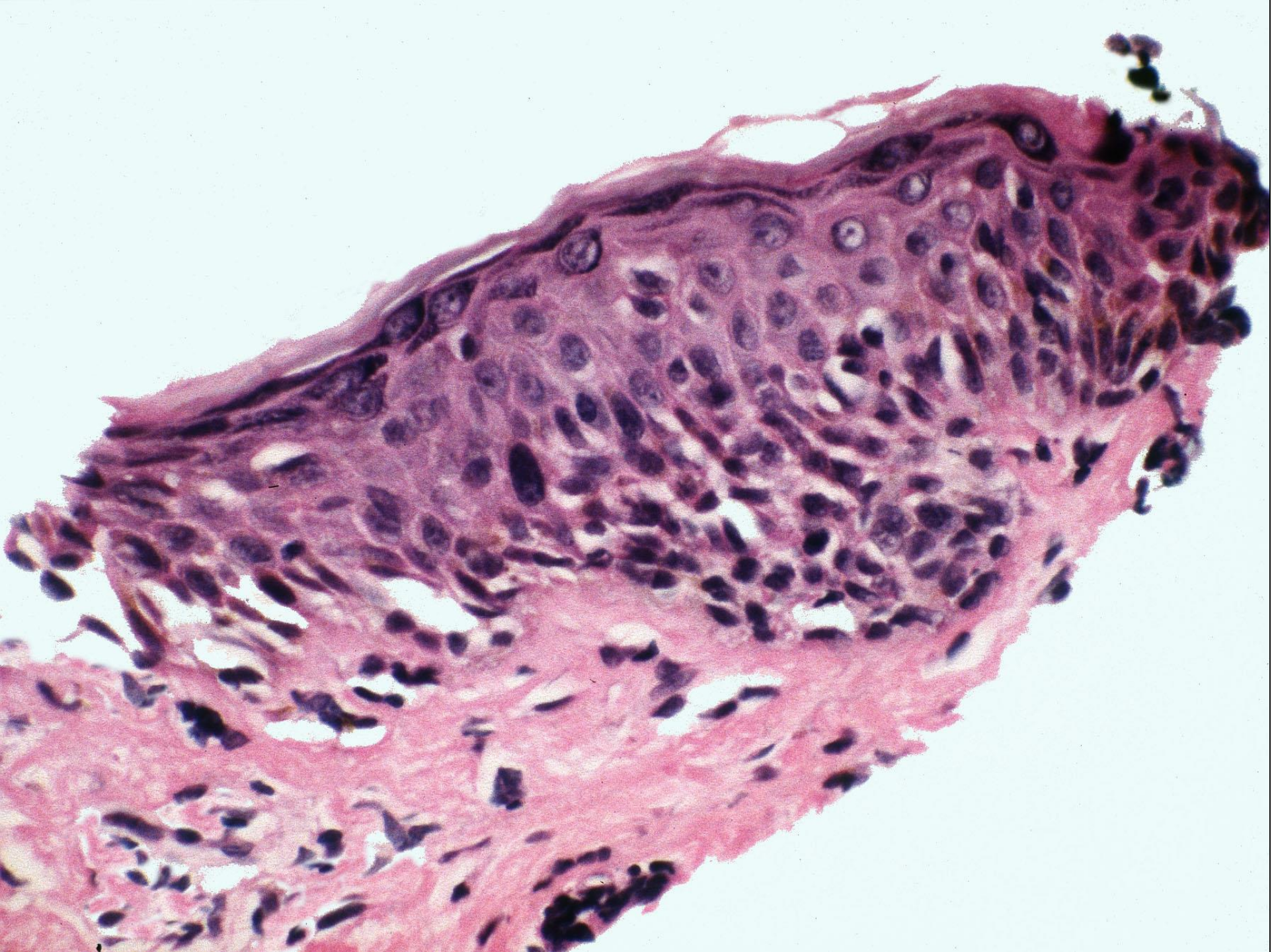


As a result, large coherent pieces of tissue can be removed that are easy to evaluate.

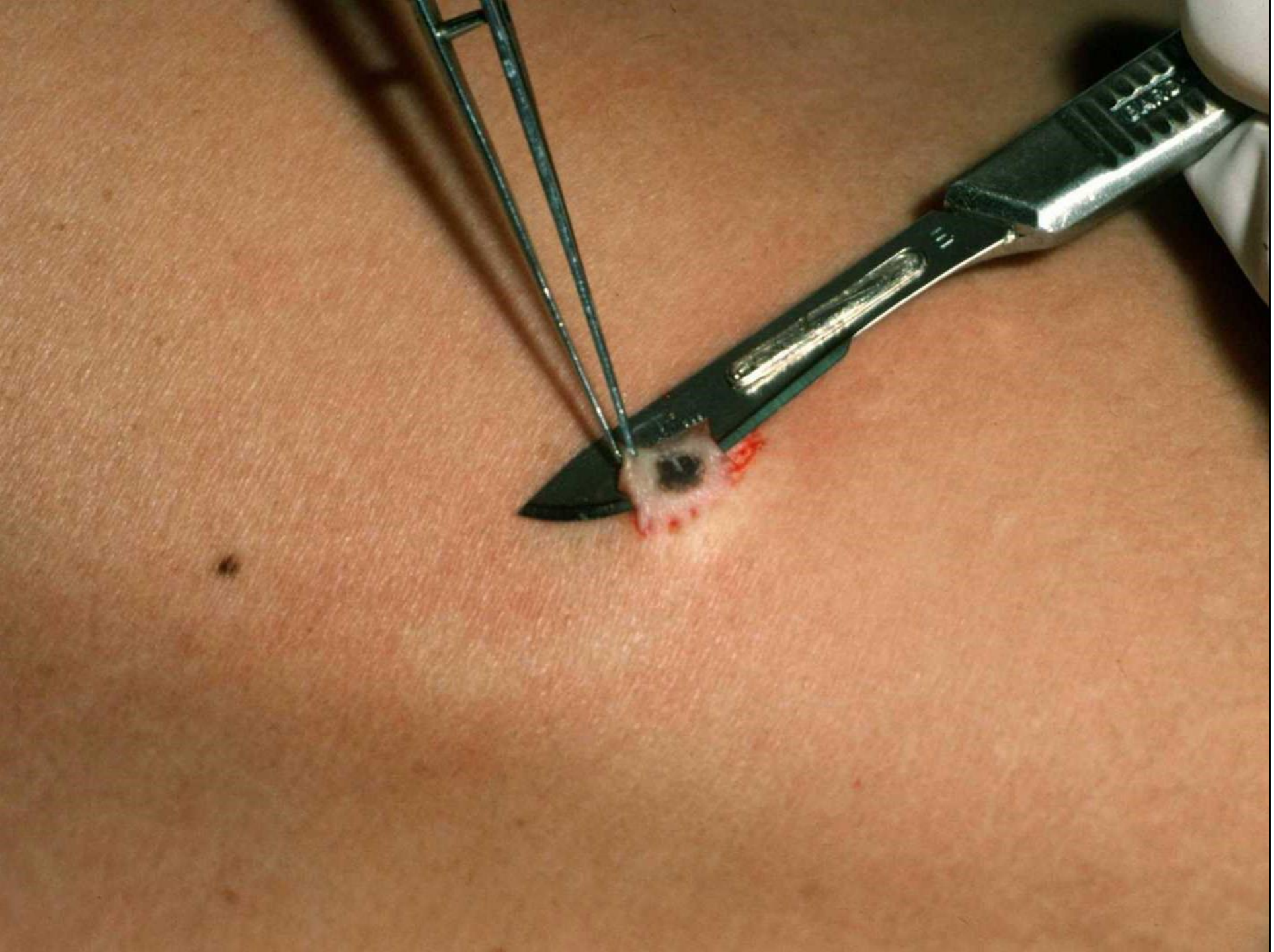




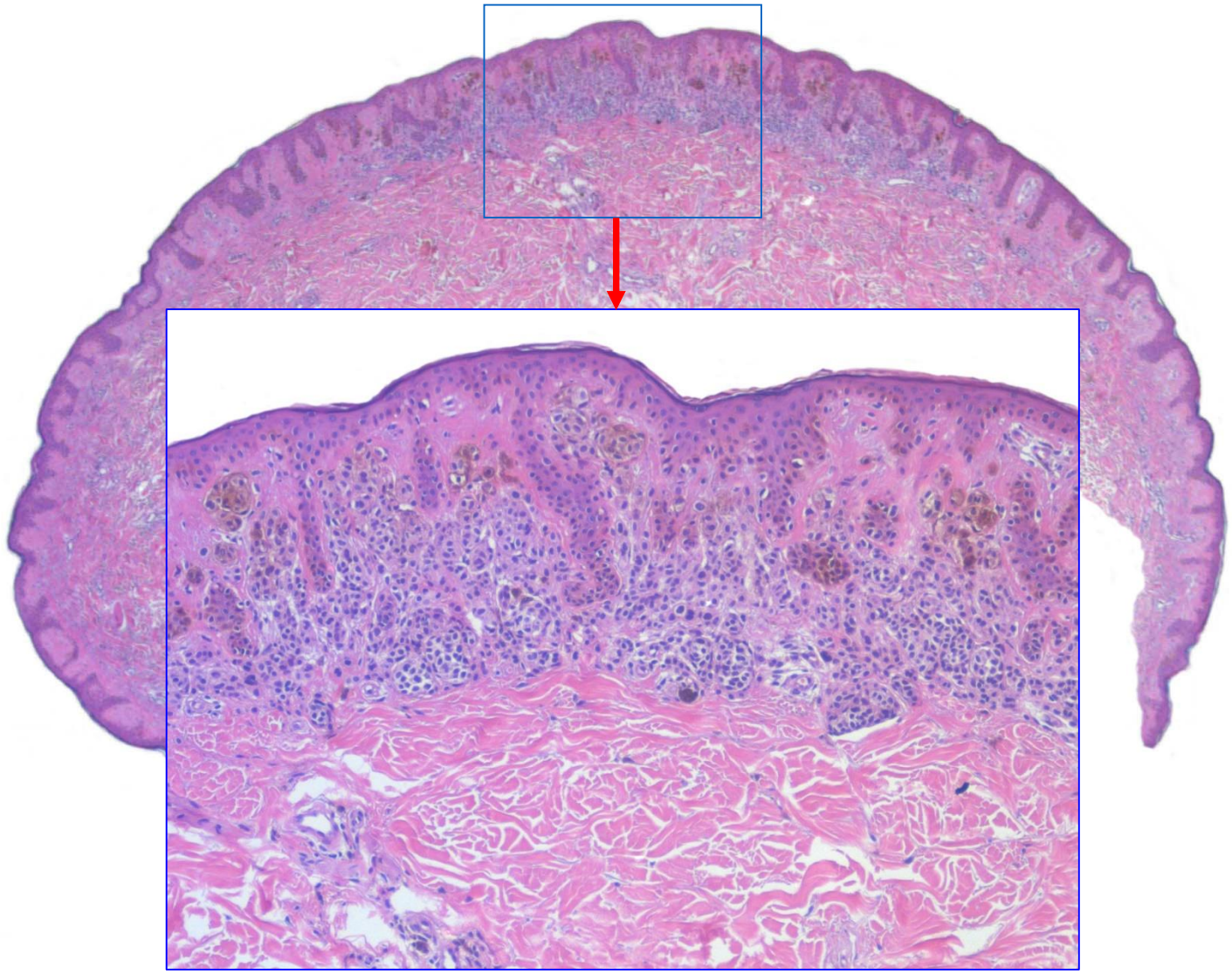
By contrast, the “pencil technique,” with the curette being held by two fingers only, often produces small fragments of tissue that bear a significant risk of overlooking focal changes. In this seborrheic keratosis, for instance,



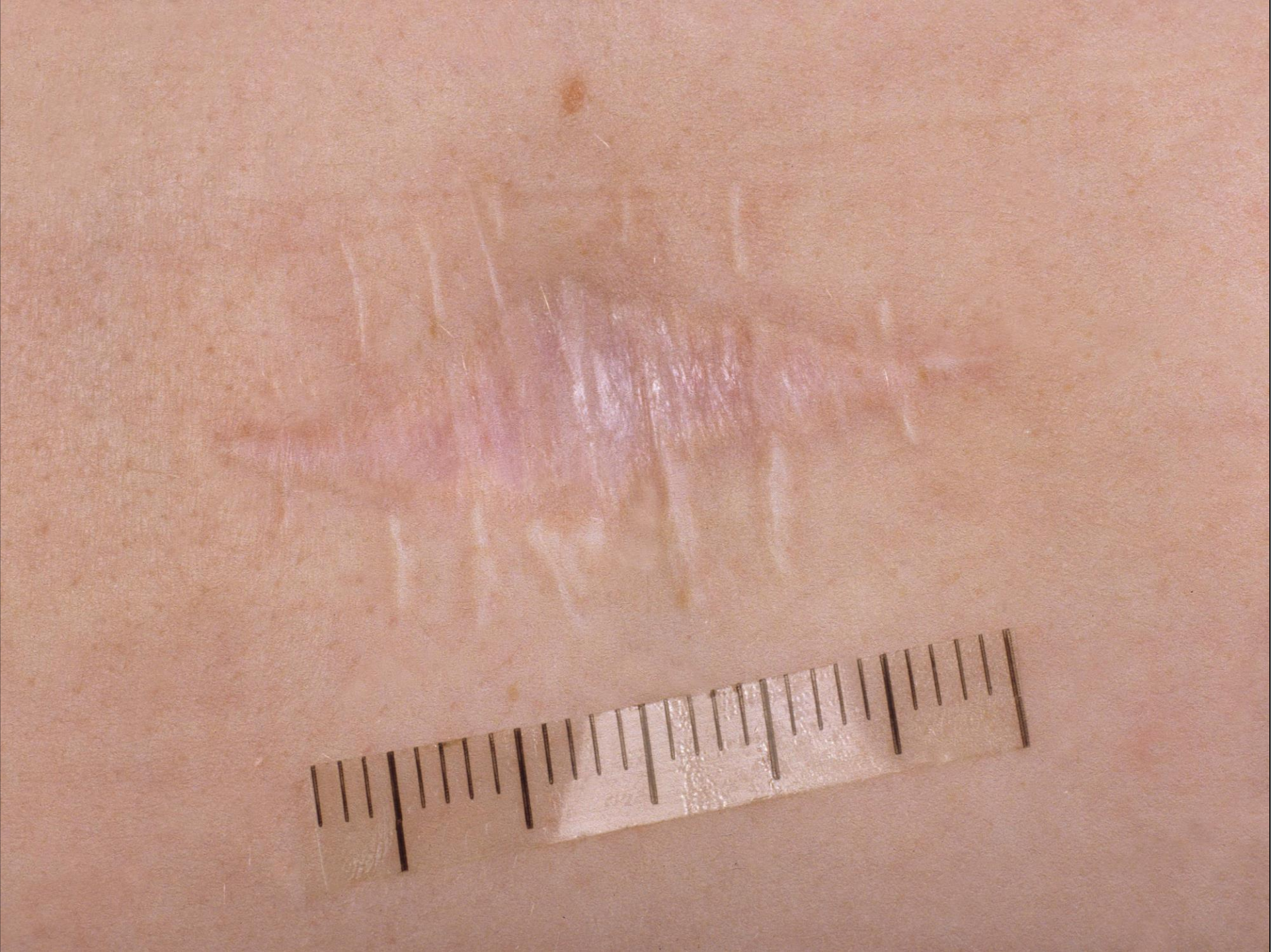
there were tiny changes of melanoma in situ in only few of hundreds of fragments.



As a rule, the shave technique produces a coherent piece of tissue and, more than that,



it may suffice for complete excision of neoplasms. In that instance, histopathologic diagnosis is not compromised at all, and the cosmetic result is usually better than after deep excisions.



The time of multiple dehiscent scars following serial excisions of nevi is over.

Richard W. Parkinson, MD

Shave biopsies—simple and useful

Preview questions

Which skin lesions can be safely excised by shave biopsy?

When is punch or excisional biopsy appropriate?

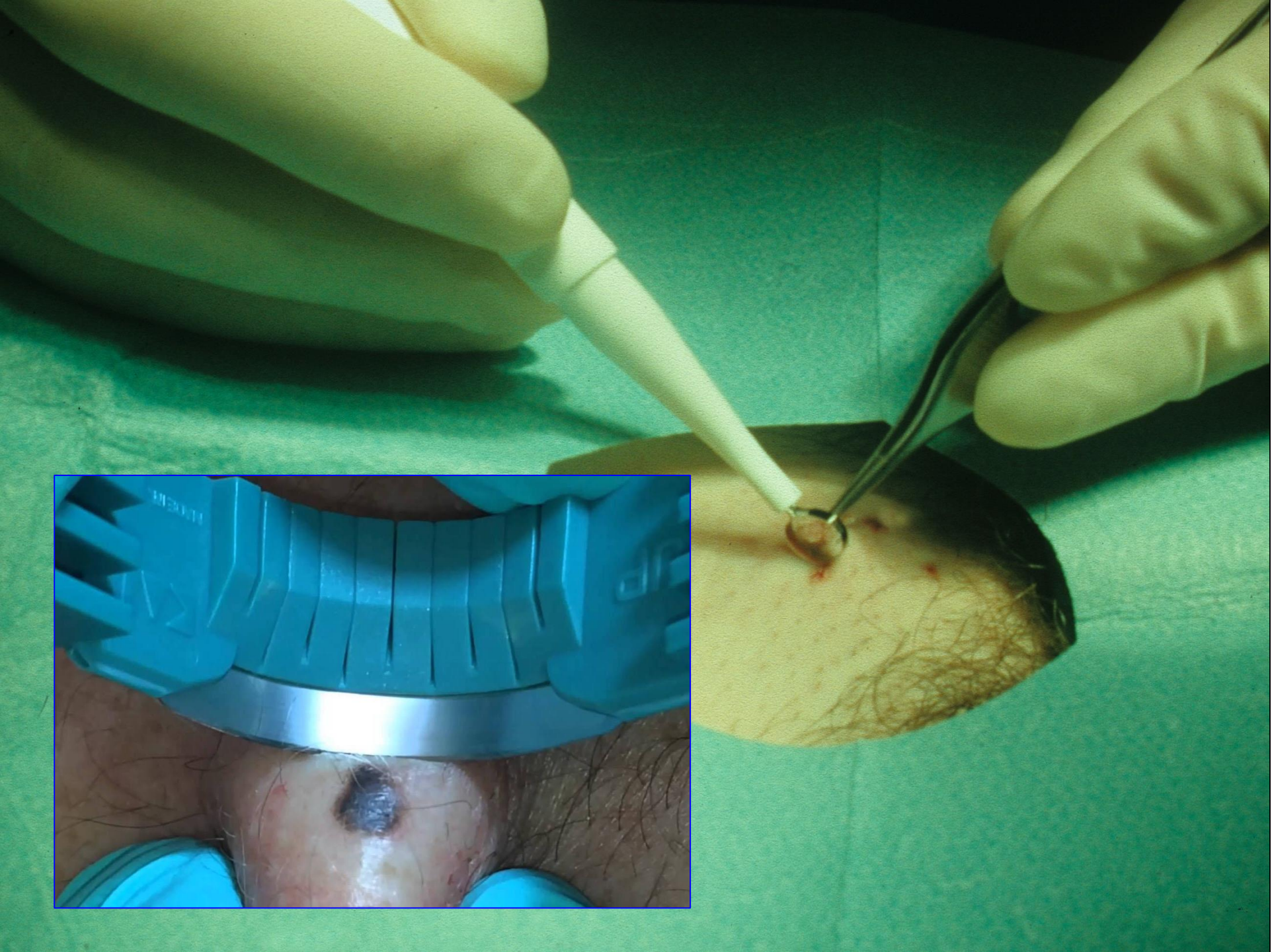
How does the technique of shave biopsy vary with different lesions?

No procedure in medicine matches the shave biopsy for simplicity and usefulness. It is safe, economical, and nearly painless. It leaves only a slight scar and, most important, yields valuable and often unexpected information. This article describes the indications for shave biopsy and the current techniques.

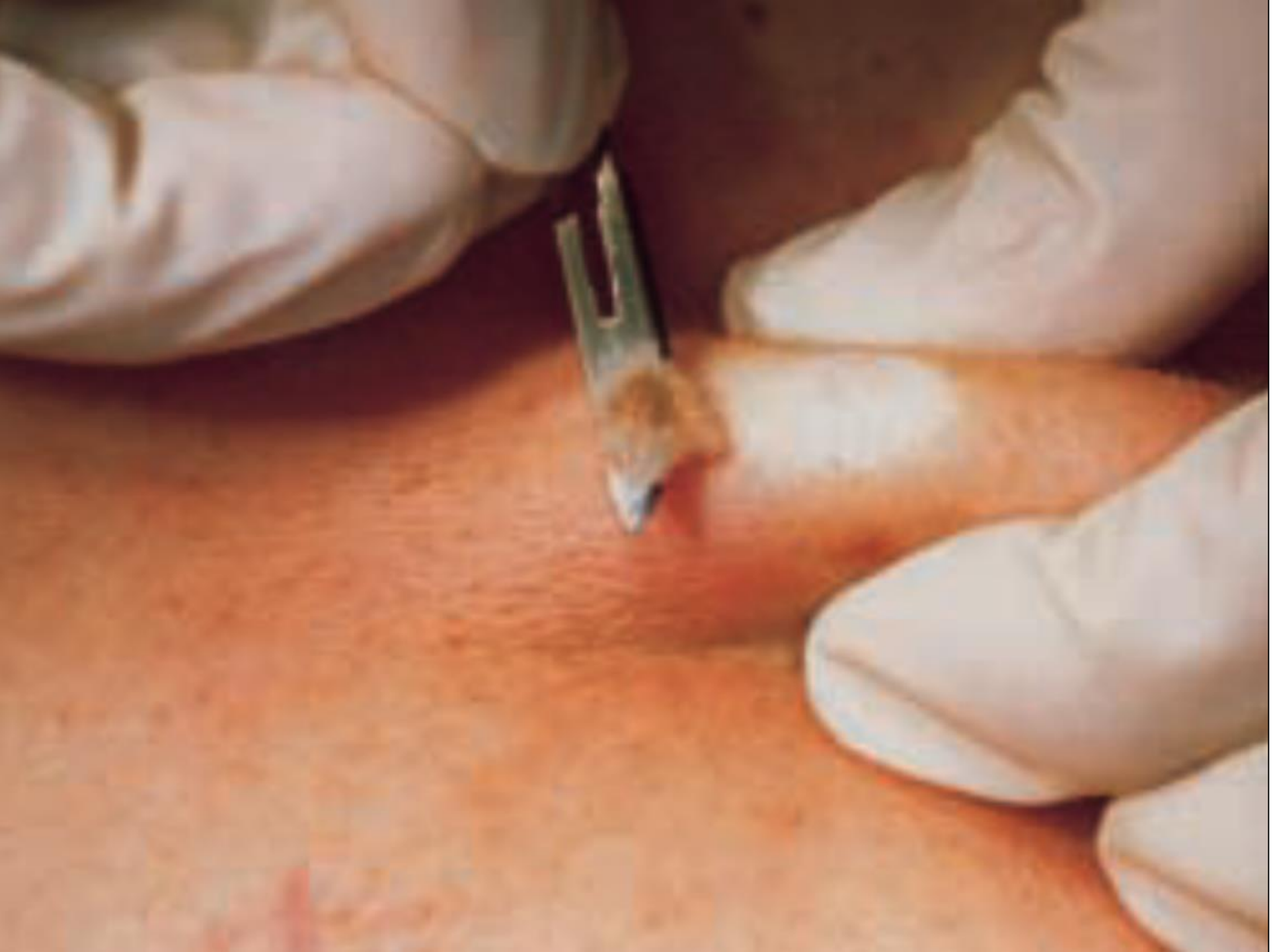
Indications

Three types of biopsies are used on the skin: the shave biopsy, the punch biopsy, and the excisional biopsy. Choosing the proper biopsy technique requires some knowledge of the disease process involved and the subsequent method of treatment, if required. The shave biopsy can be used for growths on the skin or within its outermost layers (the epidermis and the dermis), such as flesh-colored moles, tags, warts, seborrheic and actinic keratoses, and most basal cell carcinomas. It can also be used for many pigmented moles if performed with caution and care by an experienced clinician. However, only an expert should deal with melanoma. The punch and excisional techniques are used for rashes and dermatoses, because pathologic changes important in diagnosis are found deeper in the skin.

The shape technique has rightly been praised as *"simple and useful"*: *"No procedure in medicine matches the shave biopsy for simplicity and usefulness."* However, because of the aspired simplicity, useful modifications have never gained wide acceptance.

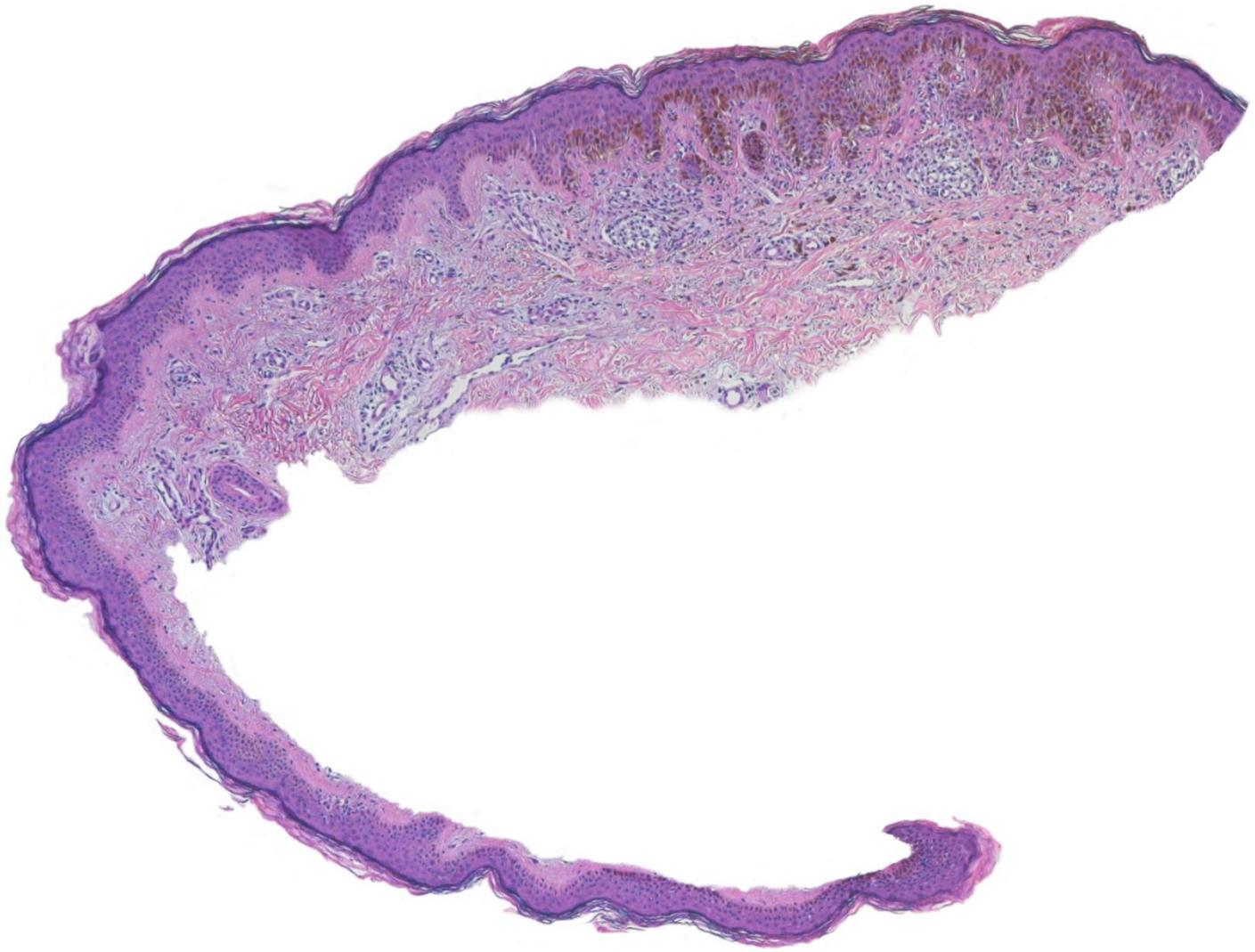


For example, instruments with a bent blade have been introduced in order to facilitate deep shaves but, in general,

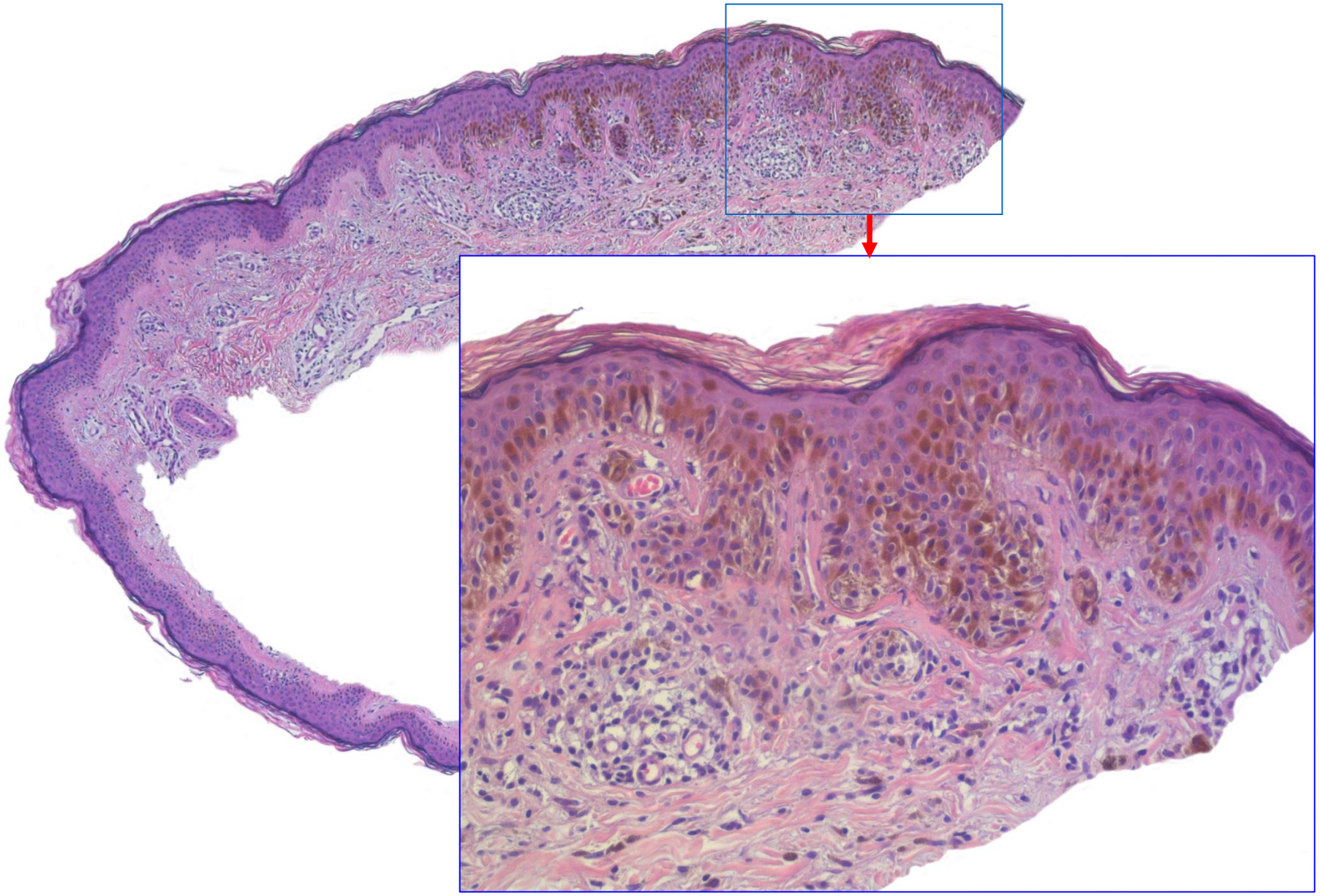


shave biopsies continue to be performed by raising a skin fold and going through it with a stiff scalpel, the result being shaves very superficial.

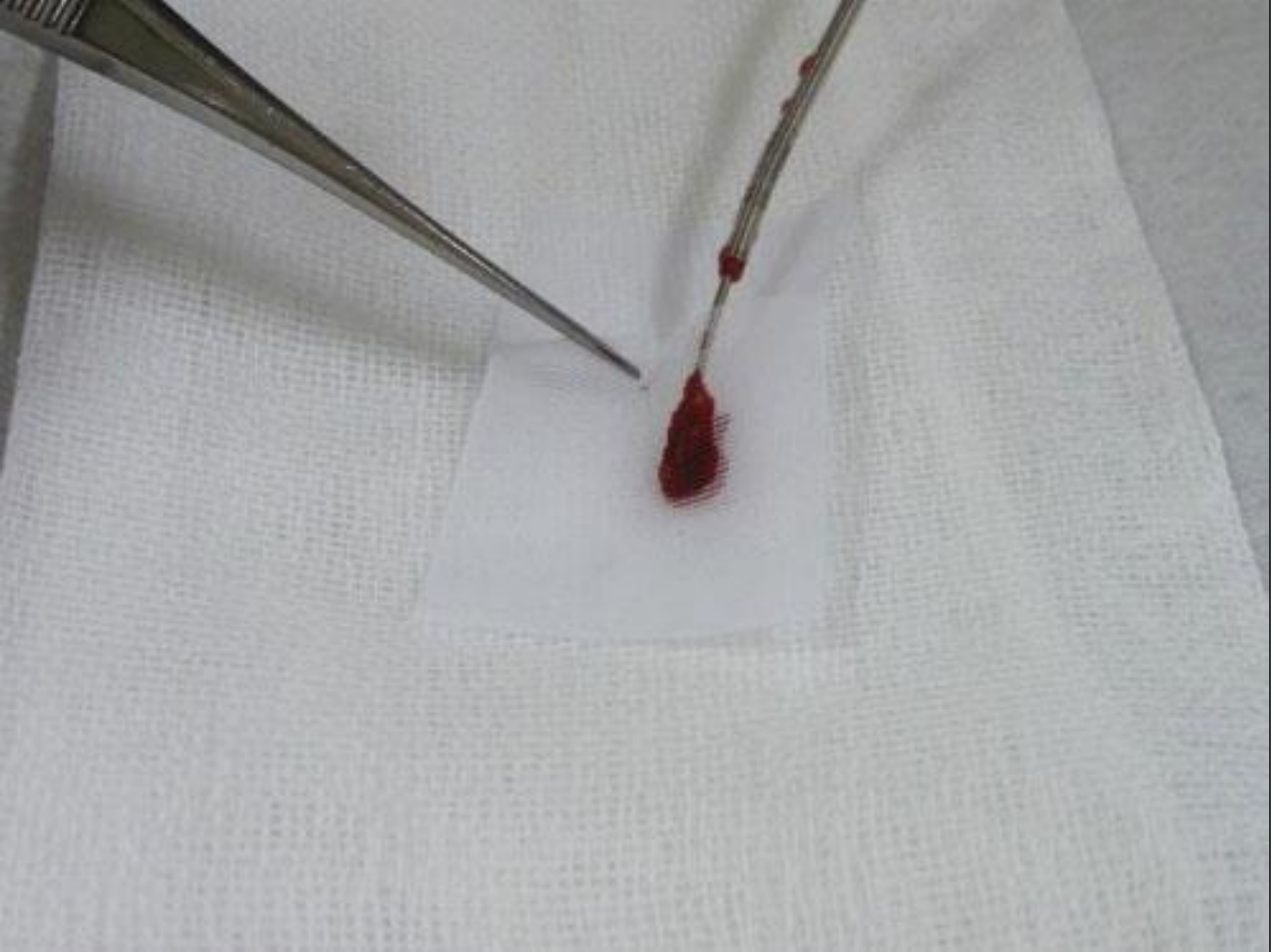
Likewise, measures have been proposed to prevent specimens from curling during fixation because of shrinkage of the dermis.



This is an important issue because shrinkage may result in improper orientation and subsequent tangential sections that compromise the assessment of criteria for diagnosis. In this specimen, for example, the border cannot be assessed,



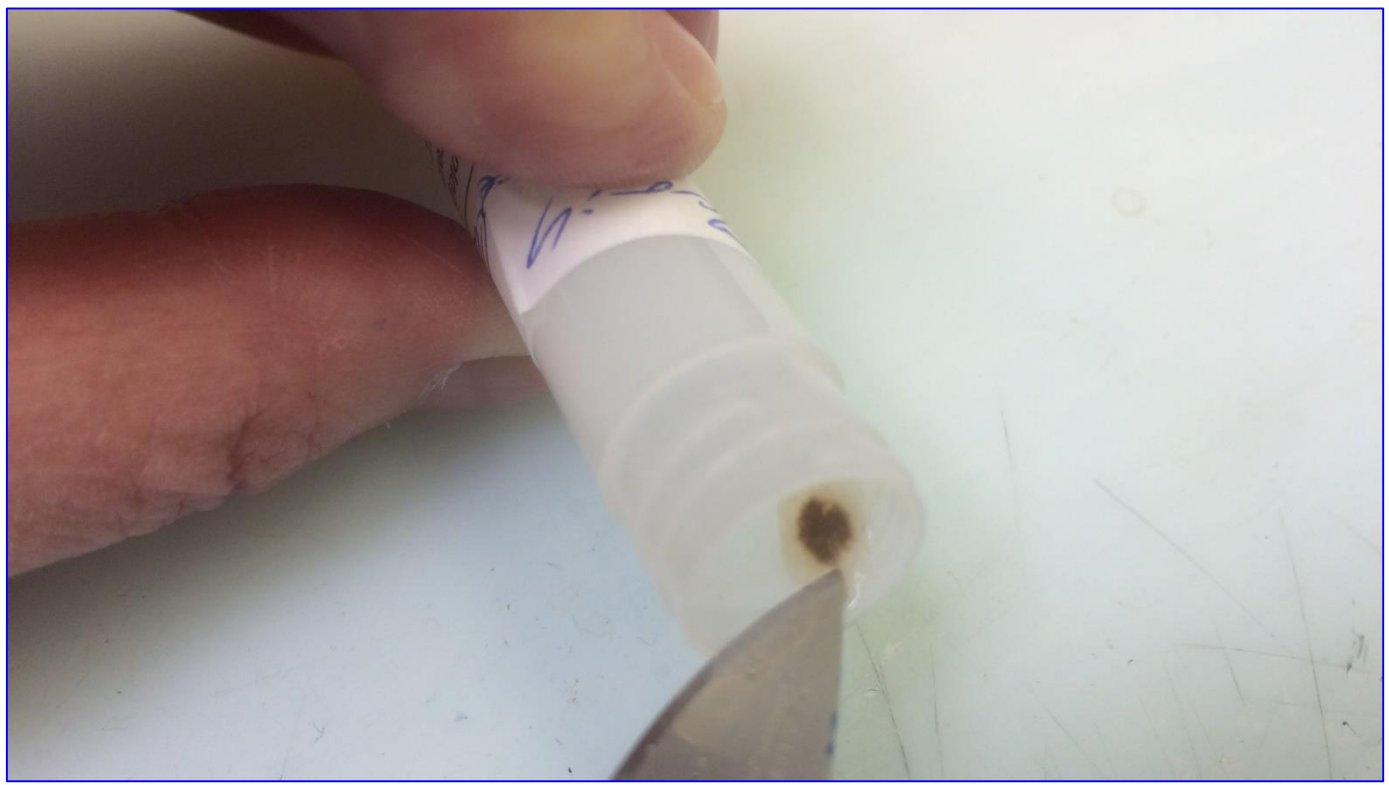
and without those nests in the dermis, one might be tempted to invoke the diagnosis of melanoma in situ because of some melanocytes above the junction.



Curling of thin-shaved specimens can be prevented by sticking the tissue to filter paper.

Flat Fixation Technique for Shave Biopsy Specimens: Stick & Shake

CHRISTINA C. DRUMMOND, M.D.
ROBERT M. HURWITZ, M.D.



An alternative is the “flat fixation technique;” the specimen is immersed in formalin, and then pressed gently to the neck of the bottle for a minute before being immersed again.

Unfortunately, those modifications interfere with the aspired simplicity, and are therefore hardly ever used. In general, problems associated with shave biopsies are passed over tacitly. This is not only true for technical problems

The Impact of Partial Biopsy on Histopathologic Diagnosis of Cutaneous Melanoma

Experience of an Australian Tertiary Referral Service

Jonathan C. Ng, MBBS, MBiomedSc; Sarah Swain, MBBS, FRCPA; John P. Dowling, FRCPA; Rory Wolfe, BSc, PhD; Pamela Simpson, BSc; John W. Kelly, MD, BS, FACD

Objective: To compare partial and excisional biopsy techniques in the accuracy of histopathologic diagnosis and microstaging of cutaneous melanoma.

Design: Prospective case series.

Setting: Tertiary referral, ambulatory care, institutional practice.

Patients: Consecutive cases from 1995 to 2006.

Interventions: Partial and excisional biopsy. Other factors considered were anatomic site, physician type at initial management, hypomelanosis, melanoma subtype, biopsy sample size, multiple biopsies, and tumor thickness.

Main Outcome Measures: Histopathologic diagnosis (false-negative misdiagnosis—overall or with an adverse outcome—and false-positive misdiagnosis) and microstaging accuracy. Odds ratios (ORs) and 95% confidence intervals (CIs) obtained from multinomial logistic regression.

Results: Increased odds of histopathologic misdiagnosis were associated with punch biopsy (OR, 16.6; 95% CI, 10-27) ($P<.001$) and shave biopsy (OR, 2.6; 95% CI, 1.2-5.7) ($P=.02$) compared with excisional biopsy. Punch biopsy was associated with increased odds of misdiagnosis with an adverse outcome (OR, 20; 95% CI, 10-41) ($P<.001$). Other factors associated with increased odds of misdiagnosis included acral lentiginous melanoma (OR, 5.1; 95% CI, 2-13) ($P<.001$), desmoplastic melanoma (OR, 3.8; 95% CI, 1.1-13.0) ($P=.03$), and nevoid melanoma (OR, 28.4; 95% CI, 7-115) ($P<.001$). Punch biopsy (OR, 5.1; 95% CI, 3.4-7.6) ($P<.001$) and shave biopsy (OR, 2.3; 95% CI, 1.5-3.6) ($P<.001$) had increased odds of microstaging inaccuracy over excisional biopsy. Tumor thickness was the most important determinant of microstaging inaccuracy when partial biopsy was used (odds of significant microstaging inaccuracy increased 1.8-fold for every 1 mm increase in tumor thickness; 95% CI, 1.4-2.4) ($P<.001$).

Conclusions: Among melanoma seen at a tertiary referral center, histopathologic misdiagnosis is more common for melanomas that have been assessed with punch and shave biopsy than with excisional biopsy. Regardless of biopsy method, adverse outcomes due to misdiagnosis may occur. However, such adverse events are more commonly associated with punch biopsy than with shave and excisional biopsy. The use of punch and shave biopsy also leads to increased microstaging inaccuracy.

Arch Dermatol. 2010;146(3):234-239

but also for the reliability of diagnosis that has been assessed in but a single prospective study from Australia. Not surprisingly, the authors found that *"increased odds of histopathologic misdiagnosis were associated with punch biopsy … and shave biopsy … compared with excisional biopsy."* That problem has not been addressed by any other study published in recent years.

Shave Biopsy Is a Safe and Accurate Method for the Initial Evaluation of Melanoma

Jonathan S Zager, MD, FACS, Steven N Hochwald, MD, FACS, Suroosh S Marzban, BS, Rony Francois, BS, Kimberly M Law, BS, Ashley H Davis, BS, Jane L Messina, MD, Vladimir Vincek, MD, PhD, Christina Mitchell, MD, Ann Church, MD, Edward M Copeland, MD, FACS, Vernon K Sondak, MD, FACS, Stephen R Grobmyer, MD, FACS

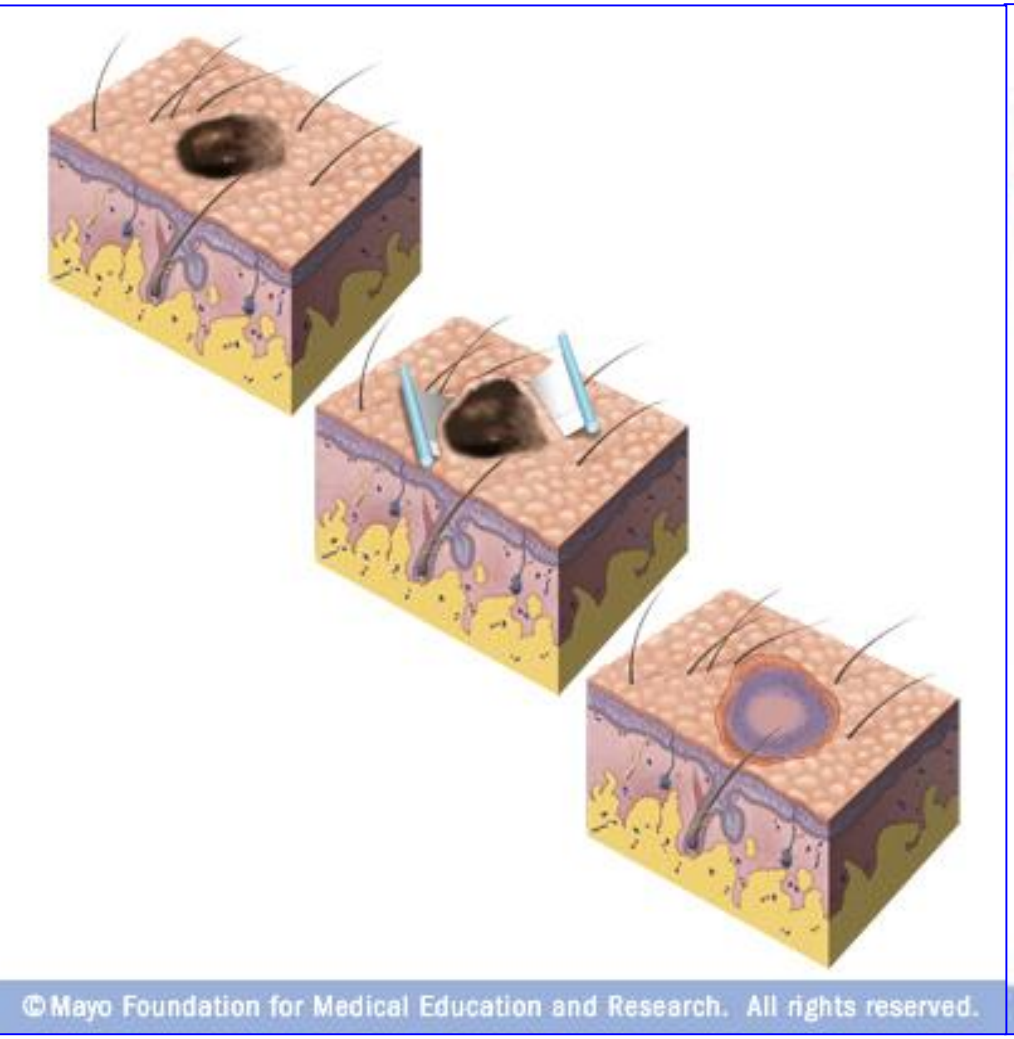
BACKGROUND: Shave biopsy of cutaneous lesions is simple, efficient, and commonly used clinically. However, this technique has been criticized for its potential to hamper accurate diagnosis and microstaging of melanoma, thereby complicating treatment decision-making.

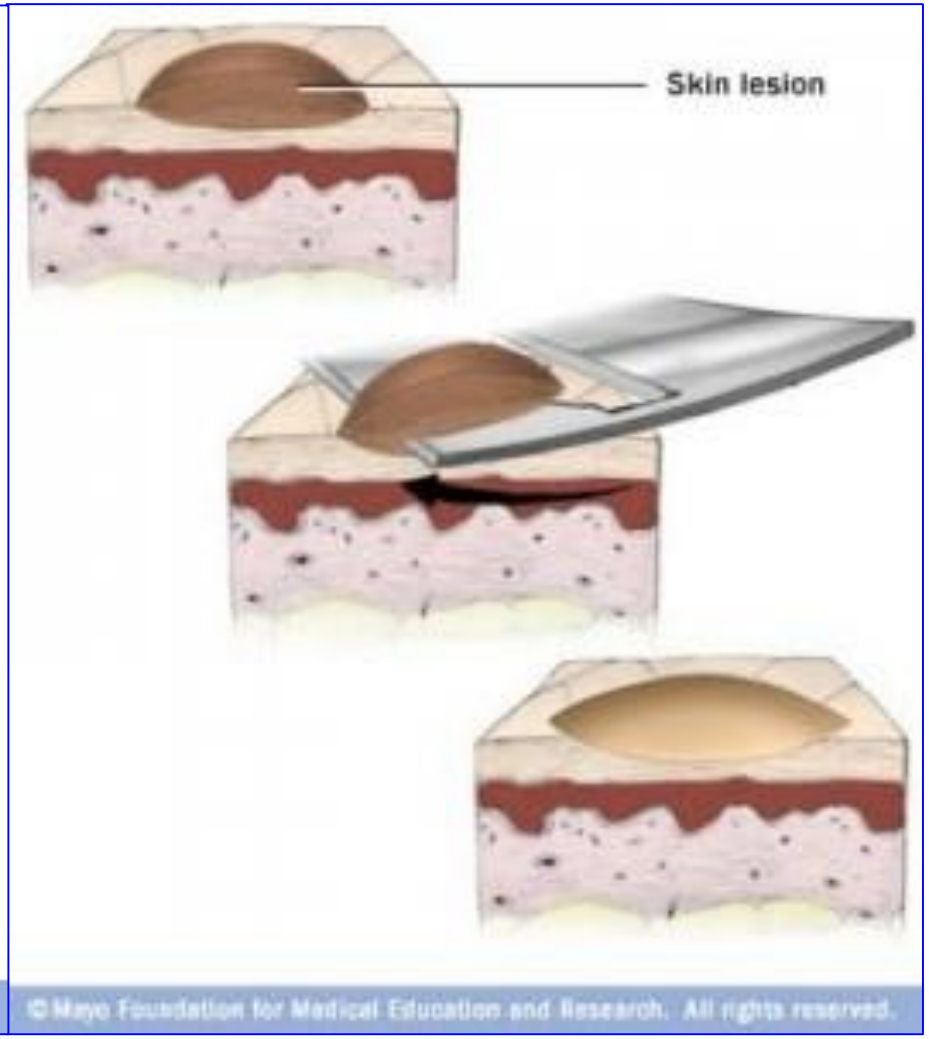
STUDY DESIGN: We retrospectively analyzed a consecutive series of patients referred to the University of Florida Shands Cancer Center or to the Moffitt Cancer Center for treatment of primary cutaneous melanoma, initially diagnosed on shave biopsy to have Breslow depth < 2 mm, to determine the accuracy of shave biopsy in T-staging and the potential impact on definitive surgical treatment and outcomes.

RESULTS: Six hundred patients undergoing shave biopsy were diagnosed with melanoma from extremity (42%), trunk (37%), and head or neck (21%). Mean ($\pm$ SEM) Breslow thickness was 0.73 $\pm$ 0.02 mm; 6.2% of lesions were ulcerated. At the time of wide excision, residual melanoma was found in 133 (22%), resulting in T-stage upstaging for 18 patients (3%). Recommendations for additional wide excision or sentinel lymph node biopsy changed in 12 of 600 (2%) and 8 of 600 patients (1.3%), respectively. Locoregional recurrence occurred in 10 (1.7%) patients and distant recurrence in 4 (0.7%) patients.

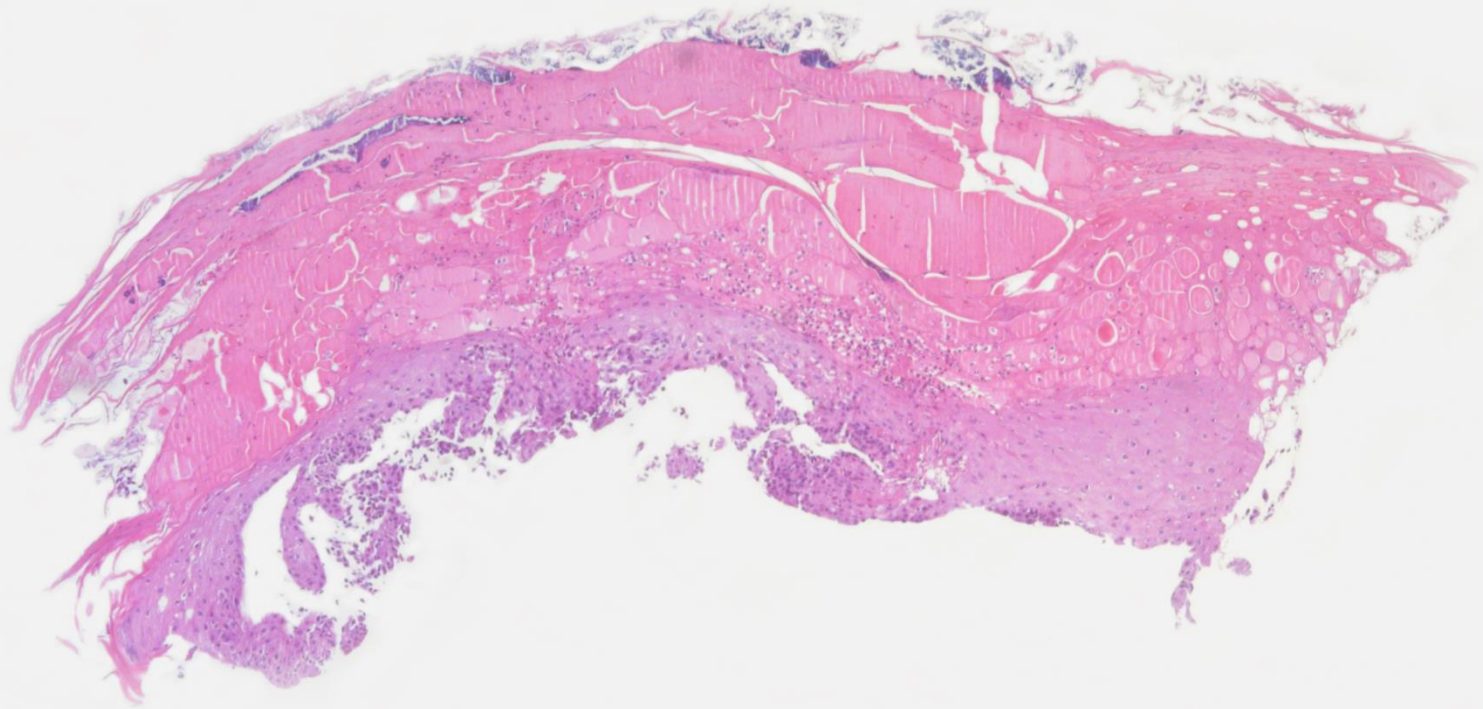
CONCLUSIONS: These data challenge the surgical dogma that full-thickness excisional biopsy of suspicious cutaneous lesions is the only method that can lead to accurate diagnosis. Data obtained on shave biopsy of melanoma are reliable and accurate in the overwhelming majority of cases (97%). The use of shave biopsy does not complicate or compromise management of the overwhelming majority of patients with malignant melanoma. (J Am Coll Surg 2011;212:454–462. © 2011 by the American College of Surgeons)

Most of those studies were performed by surgeons who averred that *"shave biopsy is a safe and accurate method for the initial evaluation of melanoma,"* but only as far as *"accuracy of shave biopsy in T staging is concerned."* For surgeons, thickness of lesions is of prime importance because their guidelines require wider excisions of thicker lesions. Whether or not the diagnosis is correct is not their business.

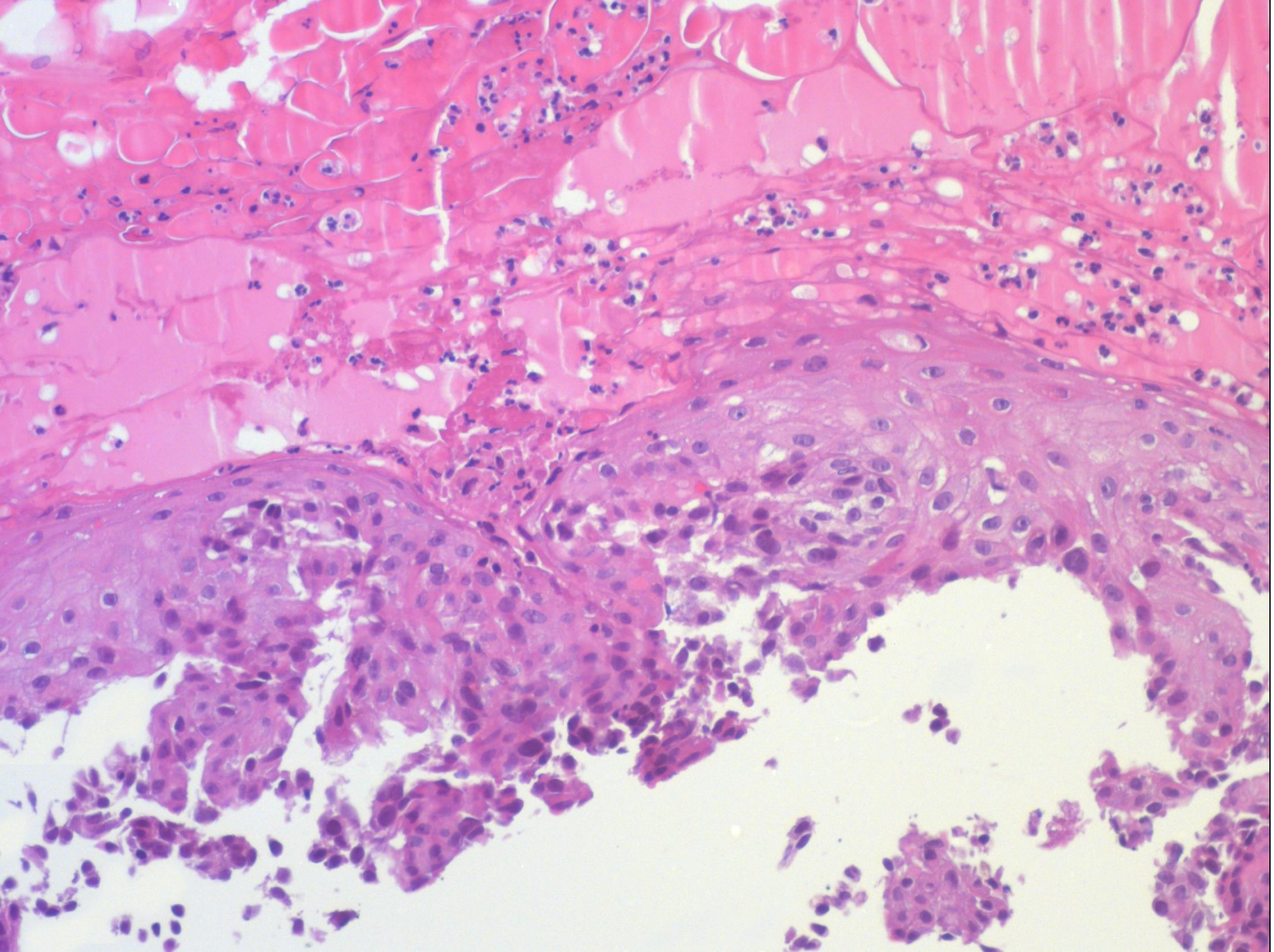




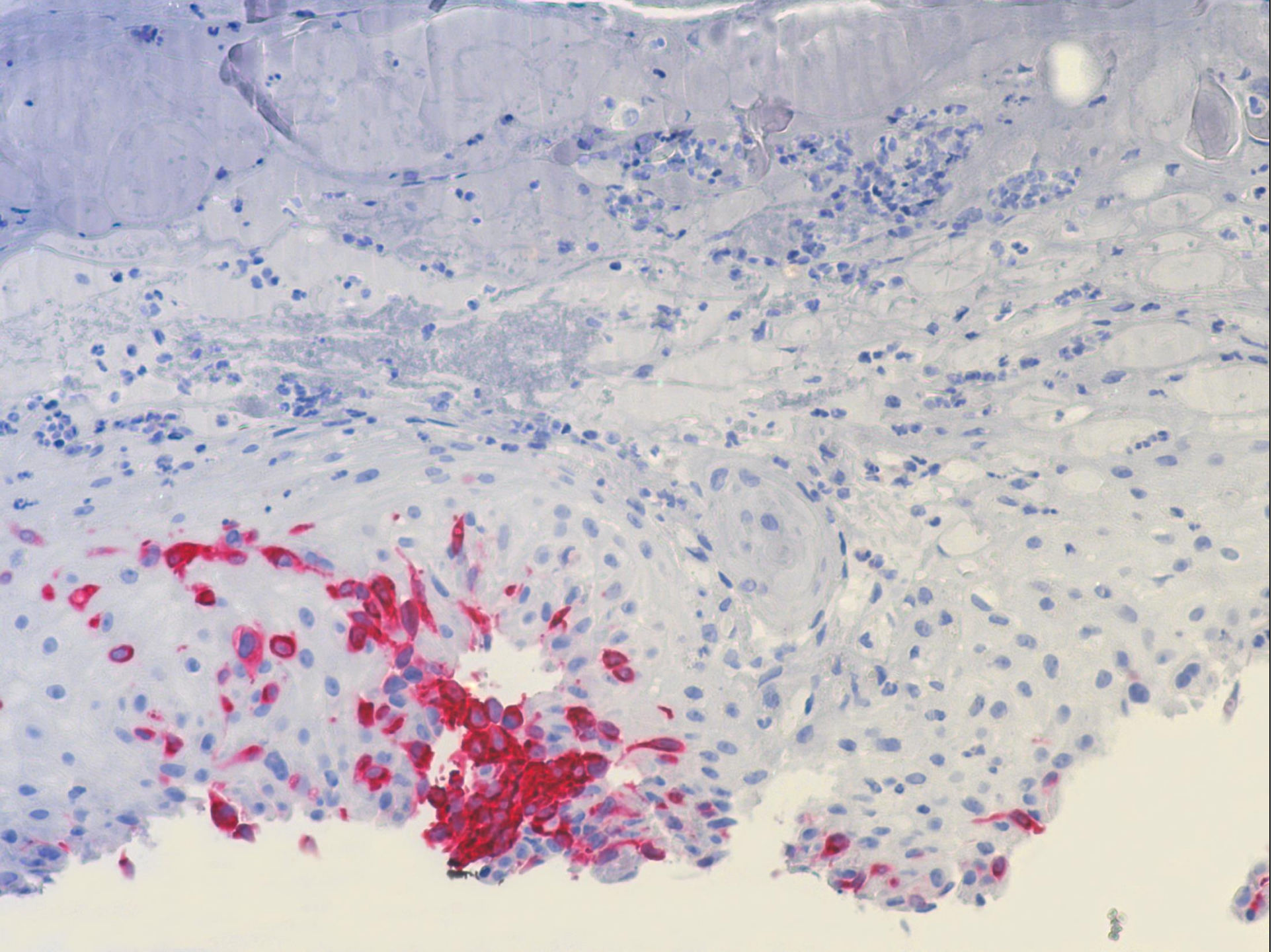
In the past decades, the uncritical attitude toward the valuable technique of shave biopsy has resulted in a dramatic decline in the quality of biopsies. This comes as no surprise if one considers how the method is being taught: not into the dermis, not even into the viable epidermis, but only through the cornified layer, as in these illustrations by the *"Mayo Foundation for Medical Education and Research. All rights reserved."*



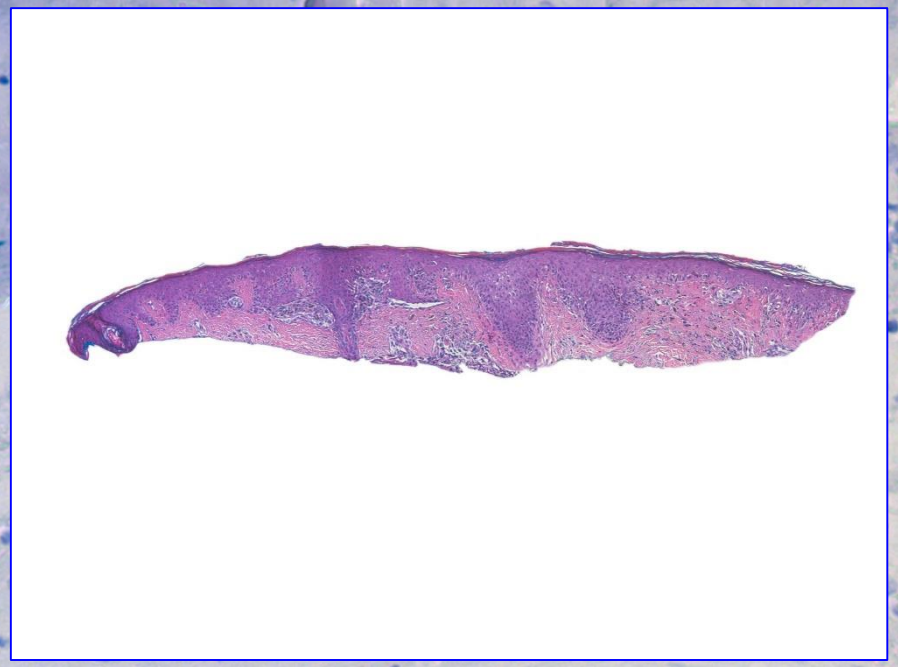
If one adheres to those recommendations, and even goes a little bit deeper, this is the result: a fragment of epithelium that shows no clear evidence of a melanocytic neoplasm.



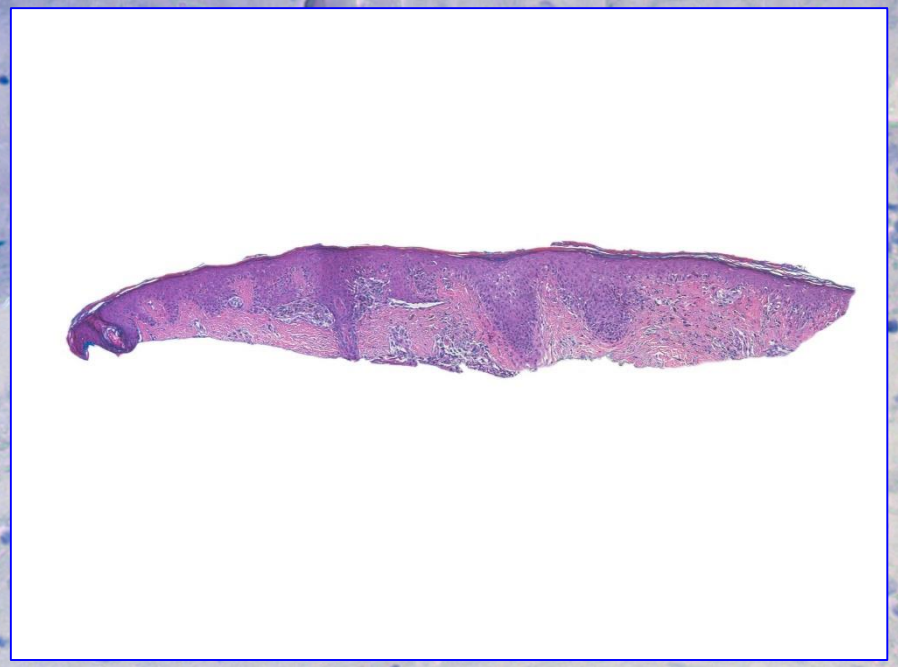
It requires great alertness and experience to suspect a melanocytic lesion in specimens such as this one and to order immunohistochemical stains

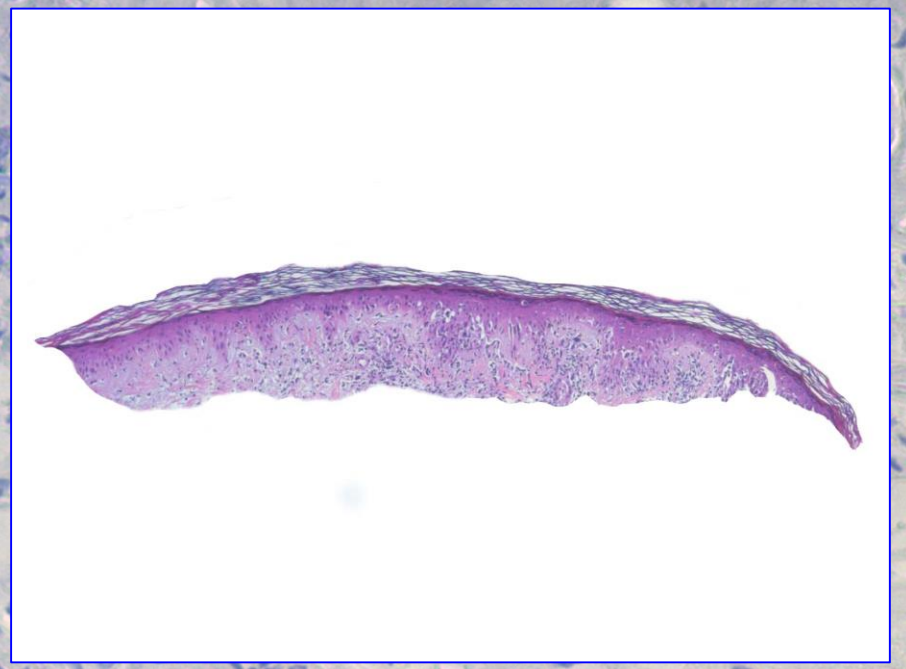


that reveal what is probably a melanoma. Shaves such as this one –

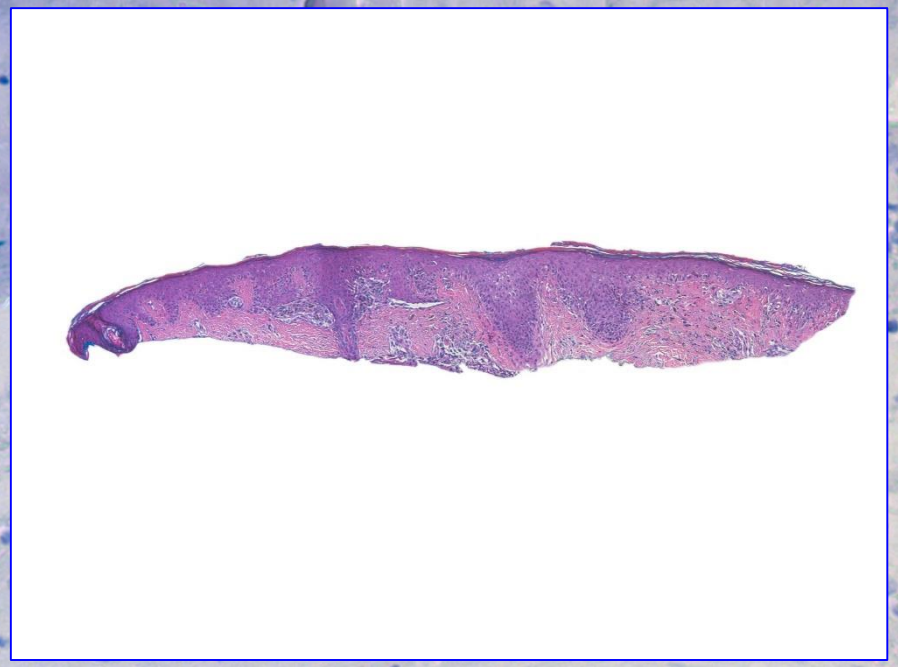


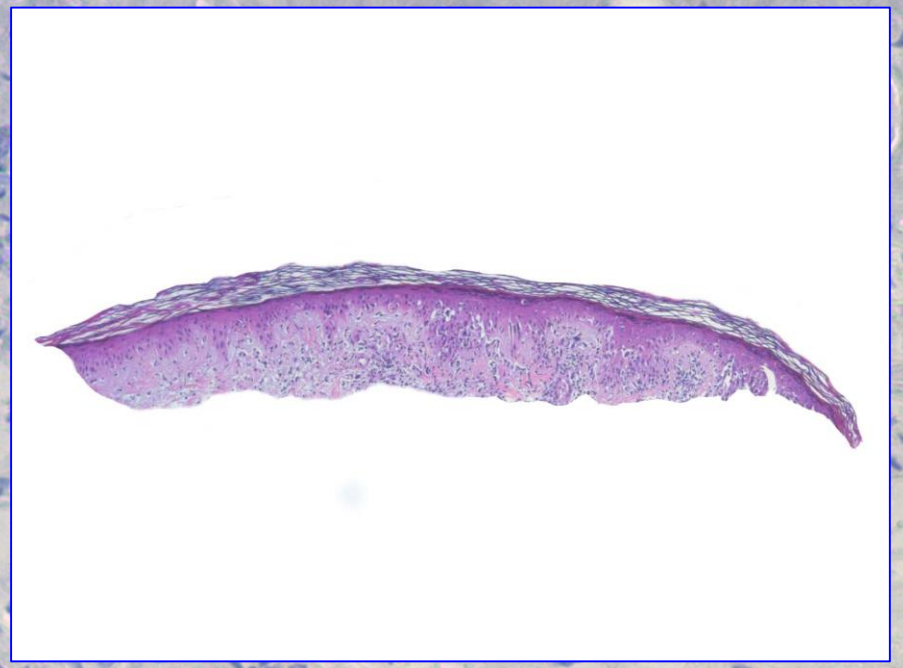
or this one,



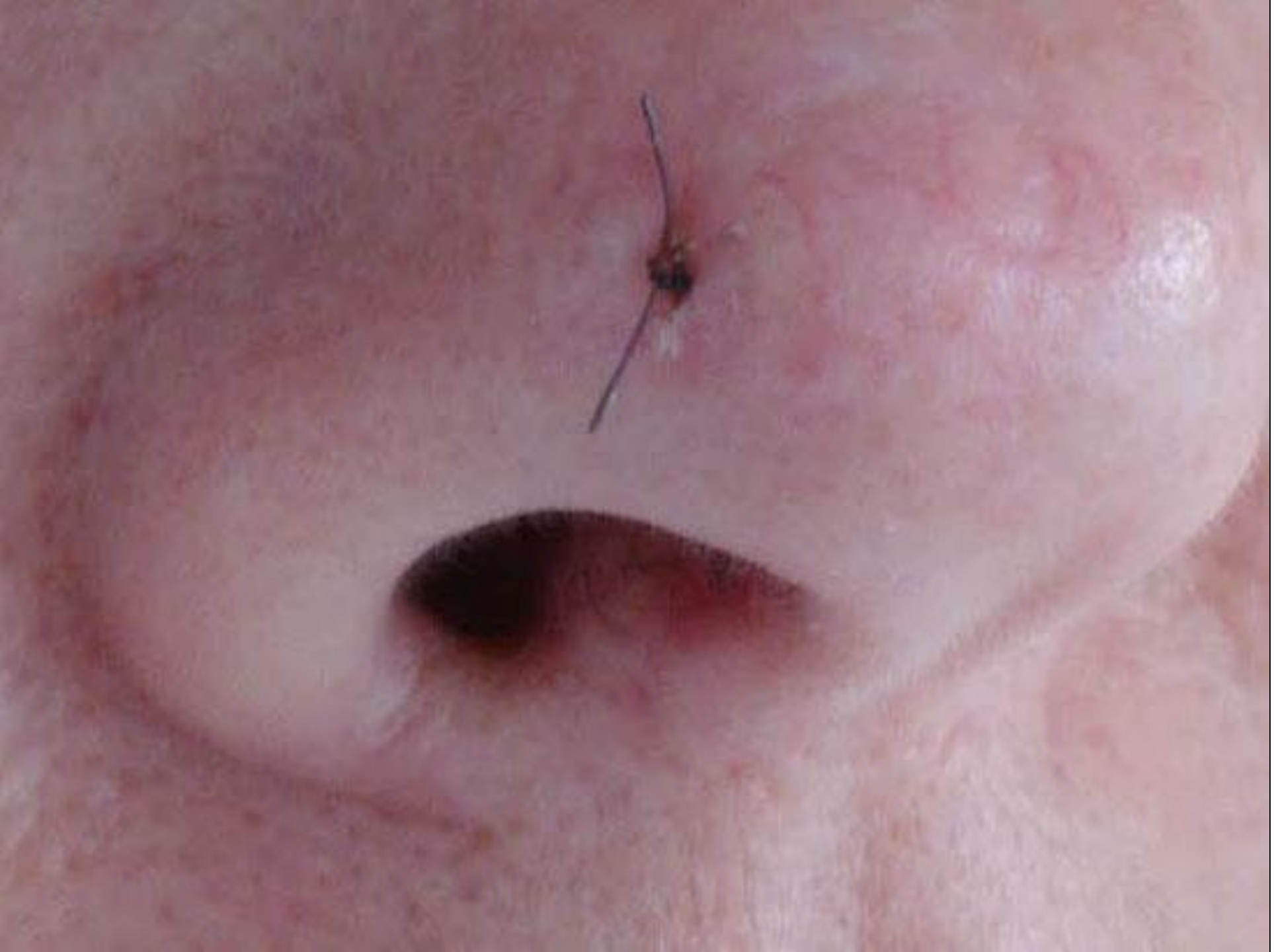


or this one – reflect the current practice of biopsy at least in the United States and Germany. They are miserable, but quickly accomplished and, therefore, often performed. The increasing frequency of biopsies





has been countered by a reduction in fees. In Germany, for example, the remuneration for the removal of sutures has been cancelled, furthering the trend to minuscule biopsies for which sutures are not necessary.



This includes punch biopsies which do not need to be sutured if they are only small enough.

Evaluation of the 2-mm punch biopsy in dermatological diagnosis

P.TODD, J.J.GARIOCH, S.HUMPHREYS,* M.SEYWRIGHT,† J.THOMSON AND A.W.P.du VIVIER *Departments of Dermatology and *Morbid Anatomy, King's College Hospital, London; Departments of Dermatology and †Histopathology, Glasgow Royal Infirmary, Glasgow, UK*

Accepted for publication 2 *October* 1995

Summary

This prospective study was undertaken to determine whether the 2-mm punch biopsy technique yields specimens of sufficient size and quality to allow a reliable histological diagnosis to be made. A histopathological comparison was made between tissue obtained from a 2-mm punch biopsy and a standard ellipse biopsy taken from a wide range of dermatoses and benign and malignant skin tumours. In 79 of the 84 cases studied, the same histopathological diagnosis was reached with the 2-mm punch biopsy and the standard ellipse. Use of the 2-mm punch biopsy technique produces specimens which allow an accurate histological diagnosis to be made in a wide range of dermatological conditions.

"… sutures are not necessary following a 2-mm punch biopsy."

The trend to smaller biopsies has been accompanied by studies, e.g., concerning *"the 2-mm punch biopsy in dermatological diagnosis."* The motivation for that study was spelled out clearly: *"Sutures are not necessary following a 2-mm punch biopsy."* And this was the result:

Evaluation of the 2-mm punch biopsy in dermatological diagnosis

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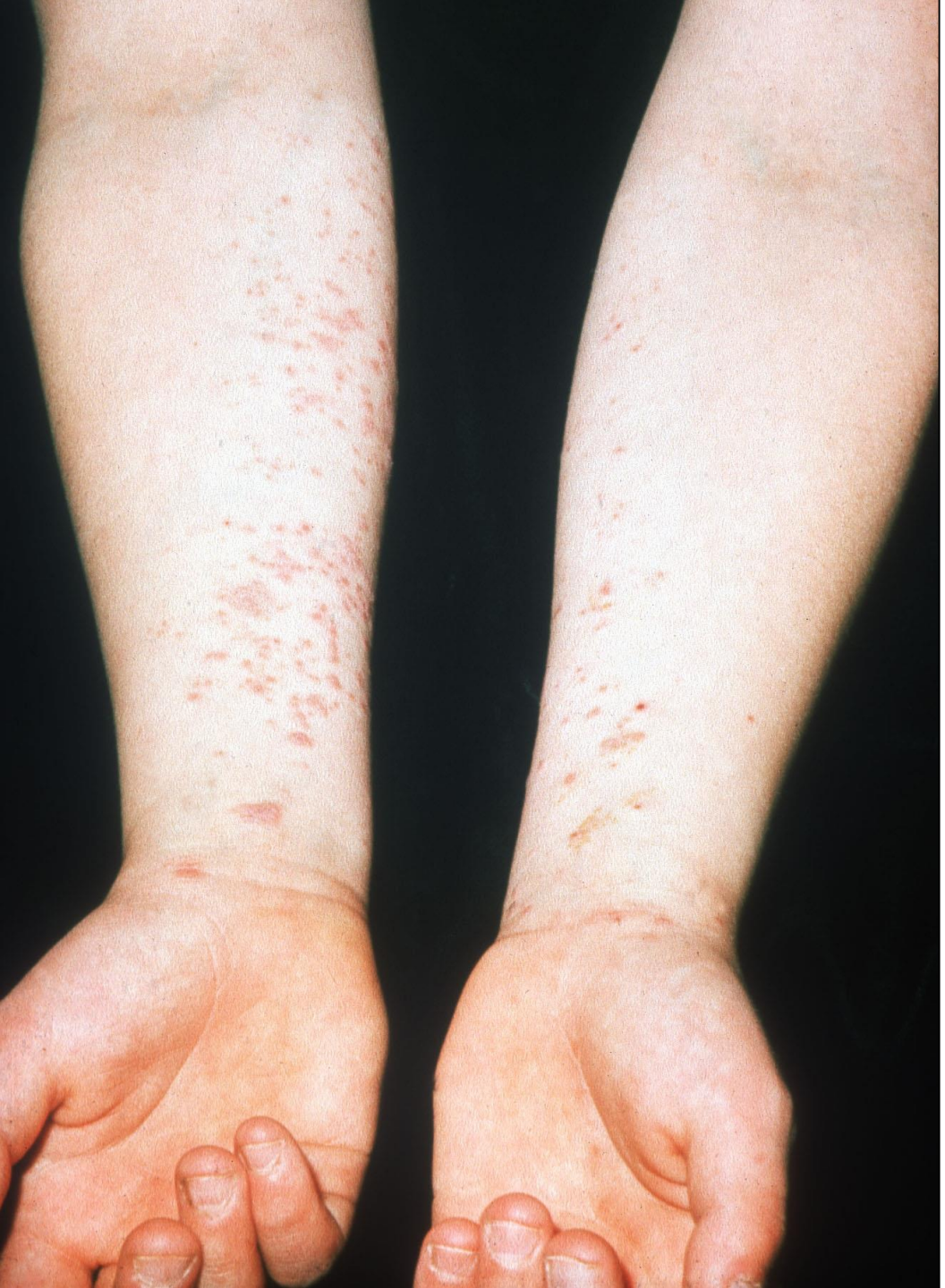
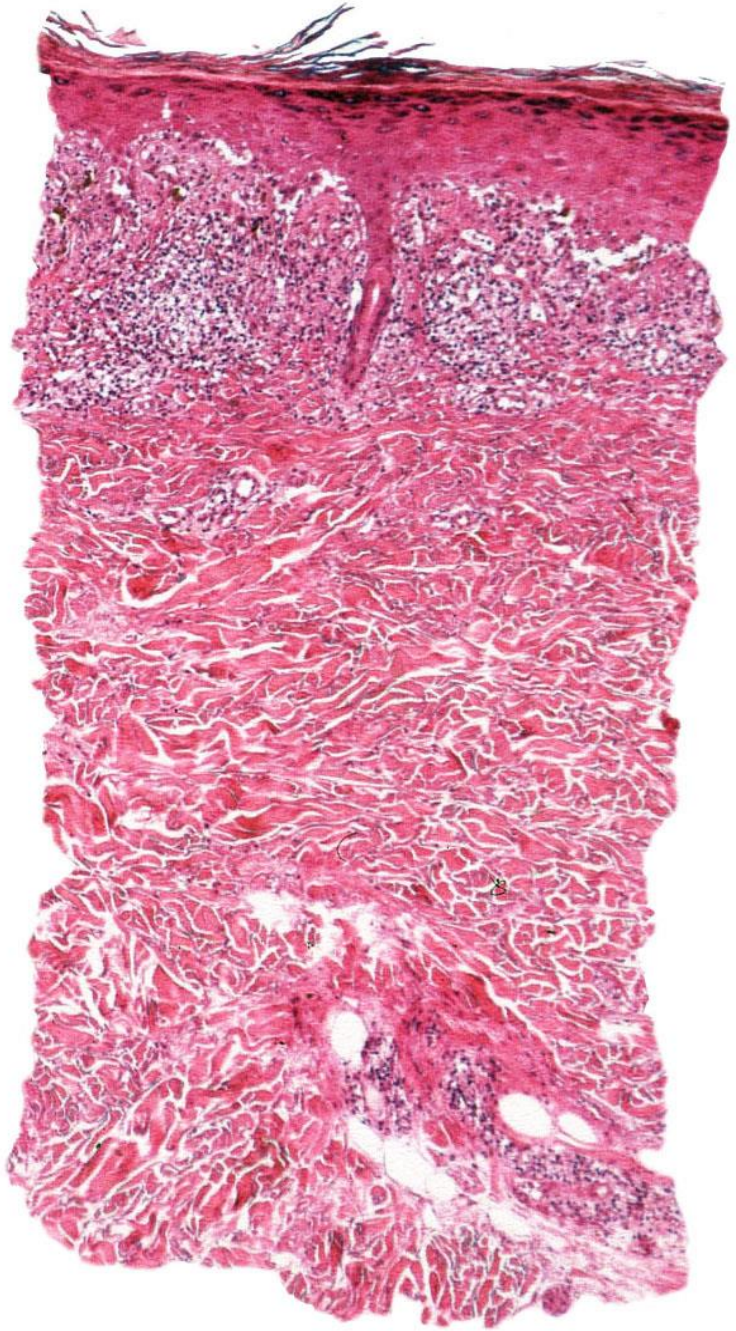
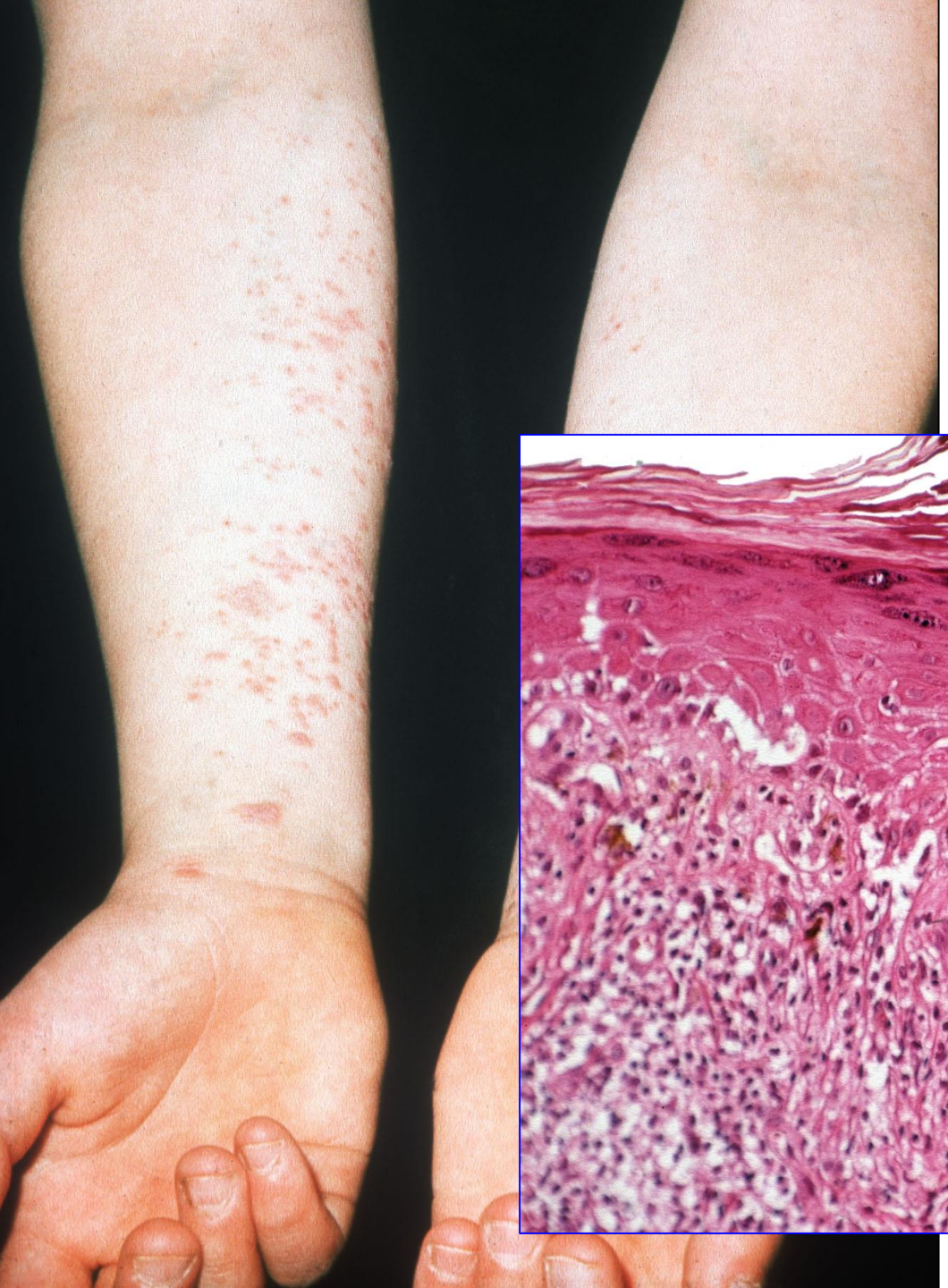
"… sutures are not necessary following a 2-mm punch biopsy."

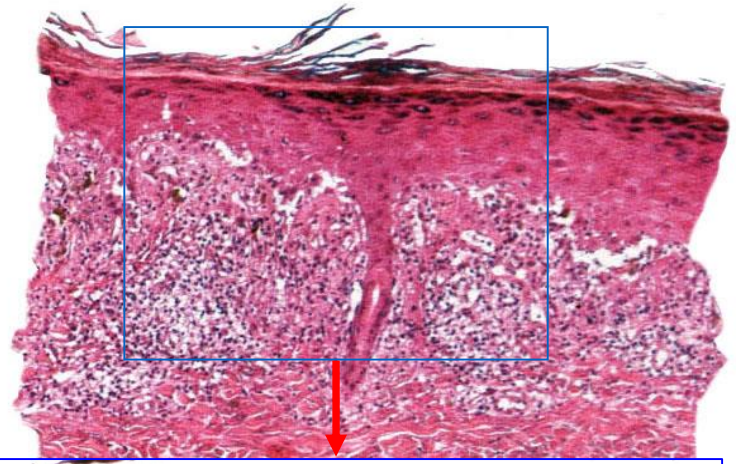
"In 79 of the 84 cases studied, the same histopathological diagnosis was reached with the 2-mm punch biopsy and the standard ellipse." As attractive as this result may sound, the diagnosis itself is not sufficient. Equally important is its degree of reliability, its dependability in questionable cases.

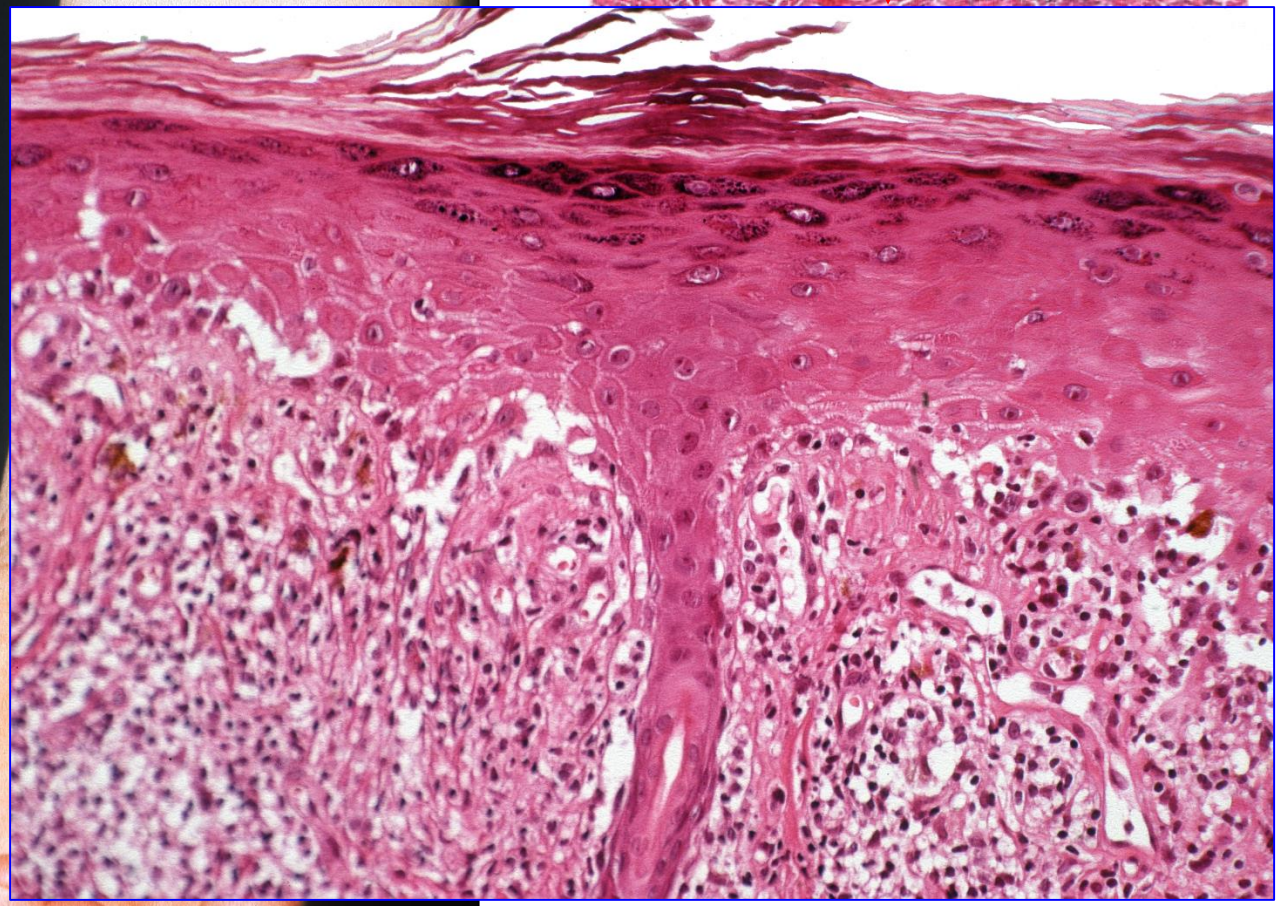




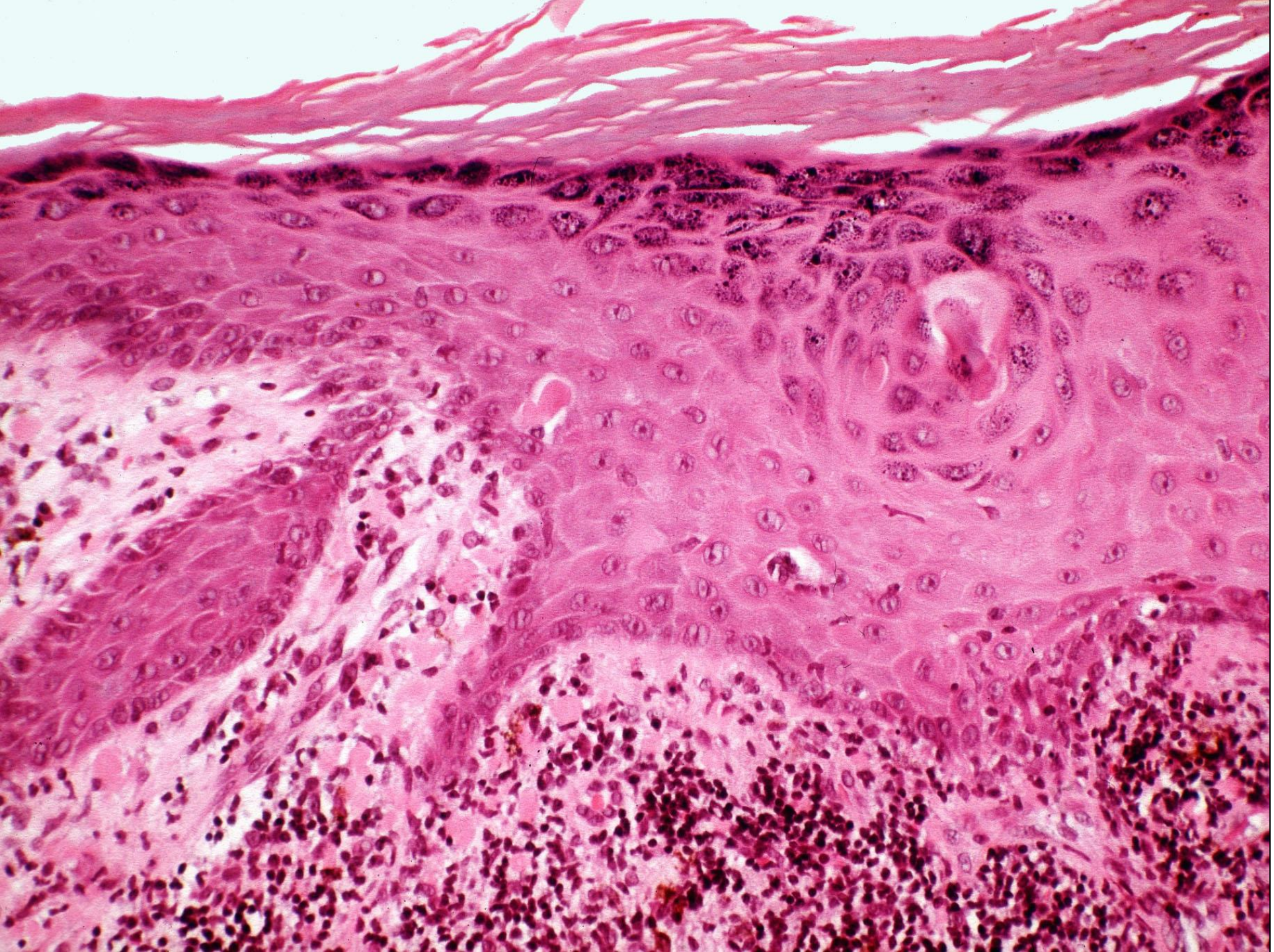
In cases that are typical clinically, histopathologic findings are often unequivocal – even a millimetre may be enough to confirm the clinical diagnosis, as in this case of lichen planus that shows all required criteria:



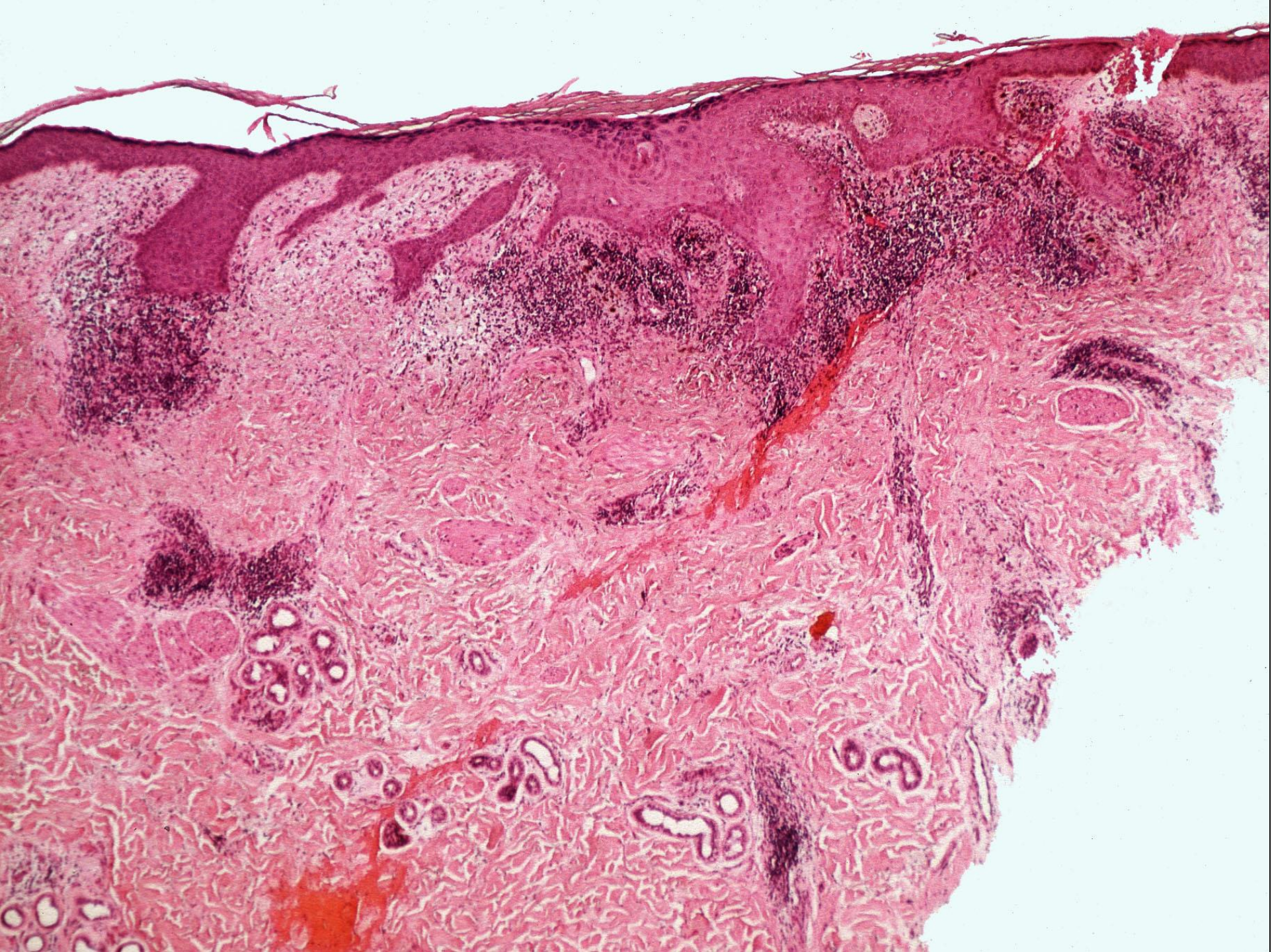




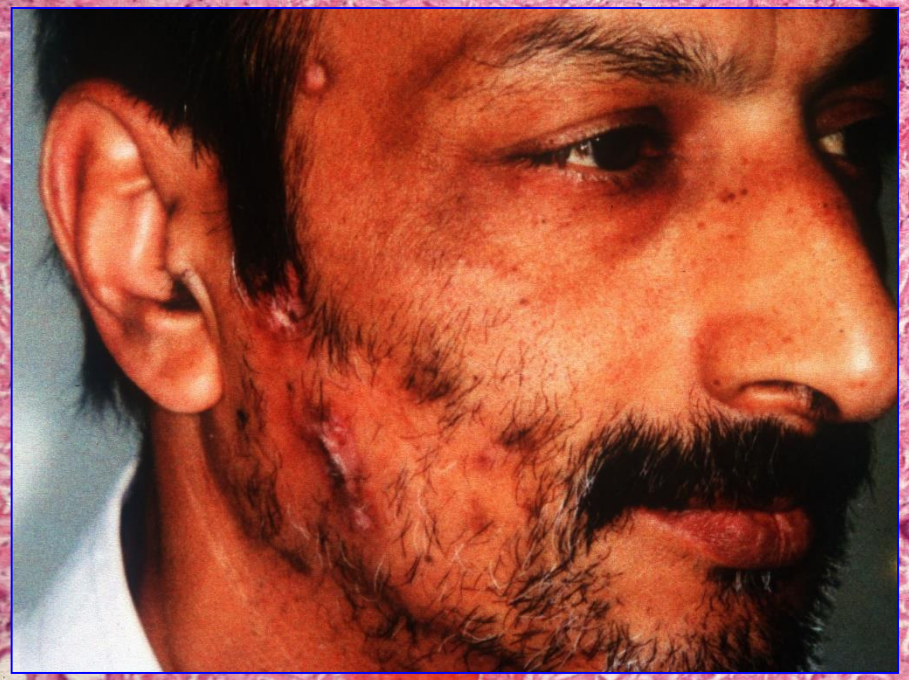
epithelial hyperplasia with a saw-tooth pattern of rete ridges, wedge-shaped hypergranulosis, compact orthokeratosis, vacuolar changes at the dermoepidermal junction, necrotic keratocytes, and a lichenoid infiltrate of lymphocytes with some melanophages in the papillary dermis.



But this case looks very similar. Another example of lichen planus?

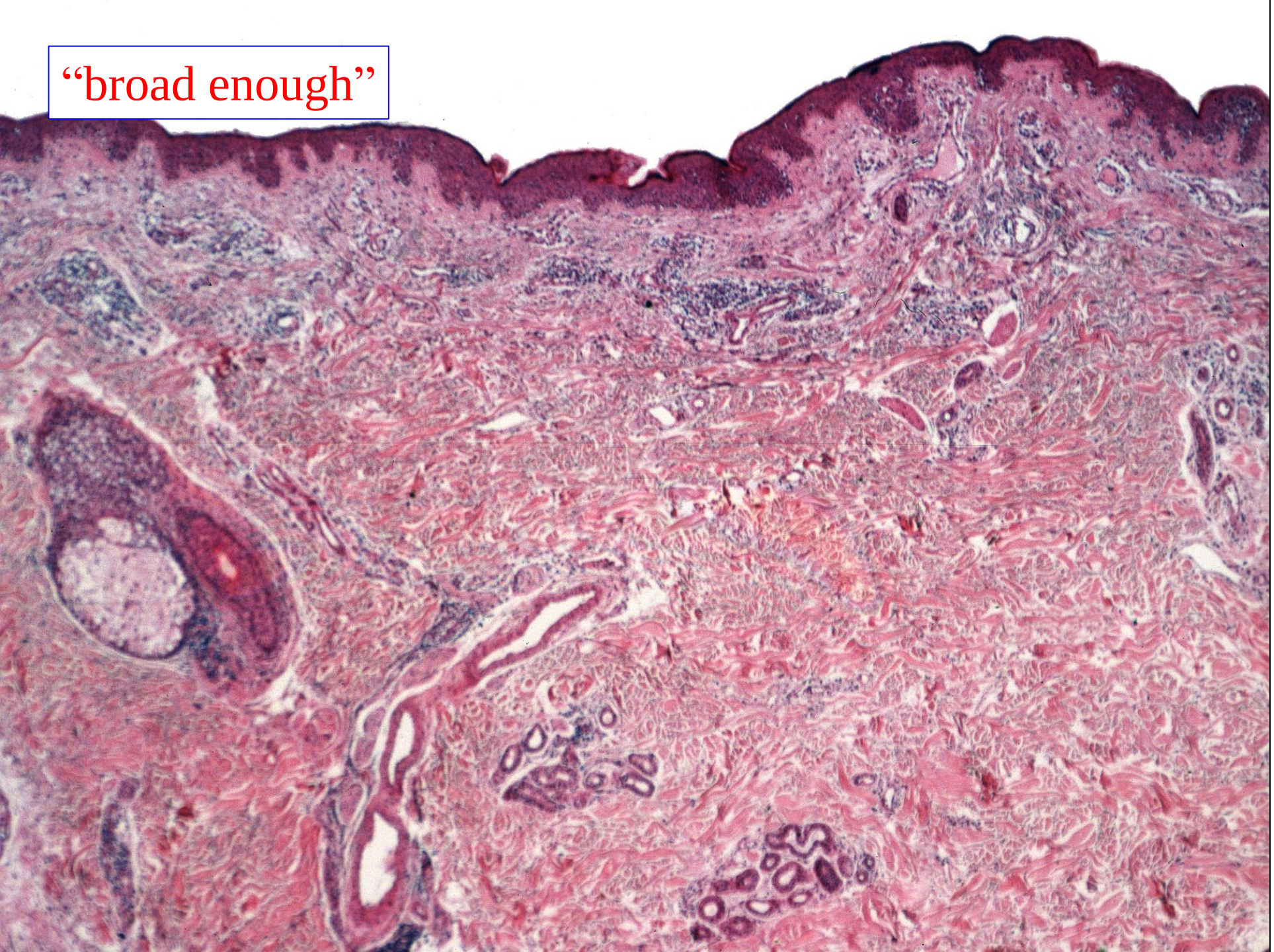


No, because the infiltrate is lichenoid only focally and extends into the deep dermis. This is a lichenoid manifestation of lupus erythematosus,

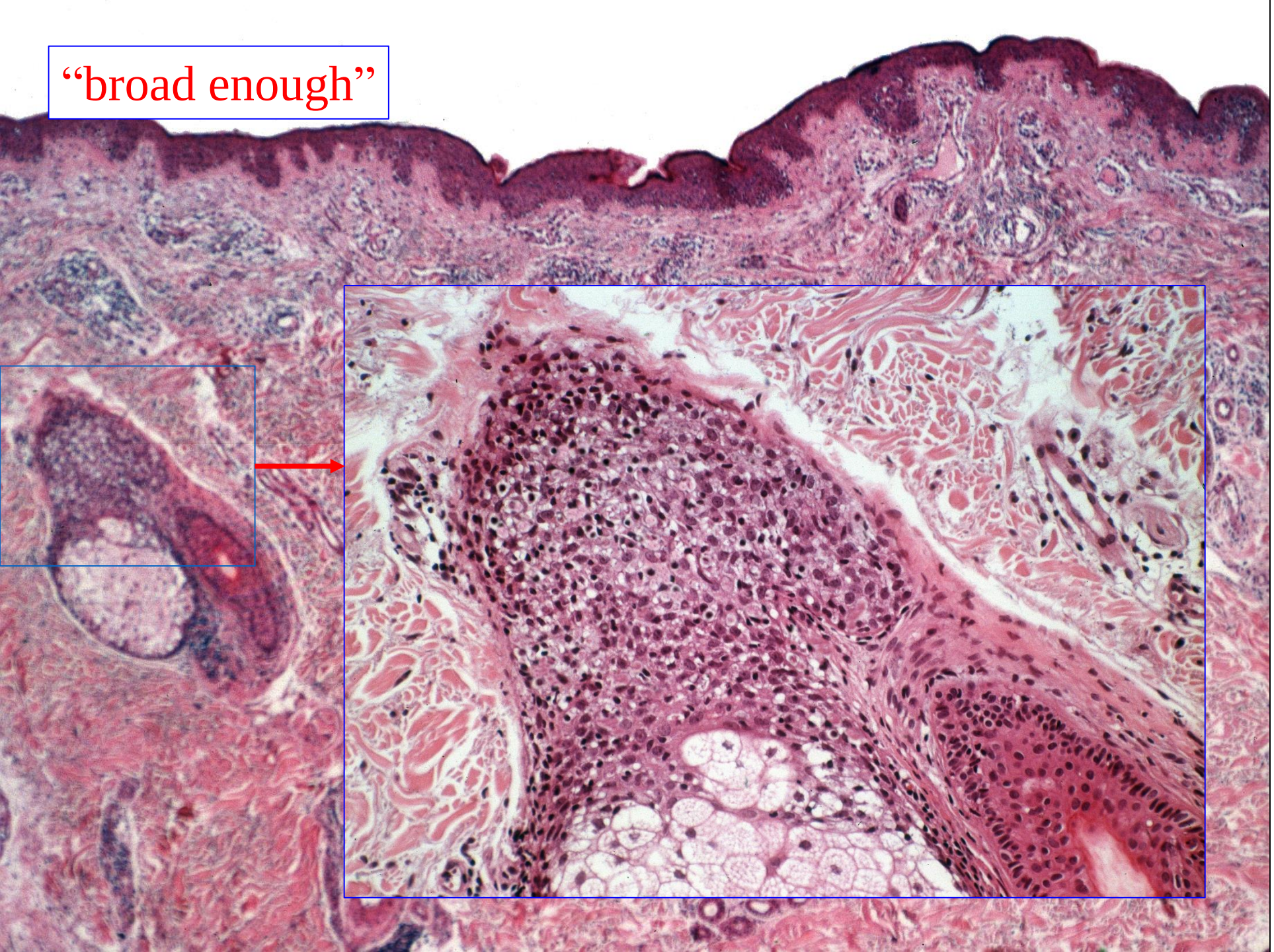


and this is the clinical picture. It is fairly suggestive of LE, but LE was not suspected by the clinician. Of course, a correct diagnosis is important, and it was achieved only

because the biopsy was broad and deep enough. In regard to dubious inflammatory dermatoses, “broad enough” means at least 4 mm.

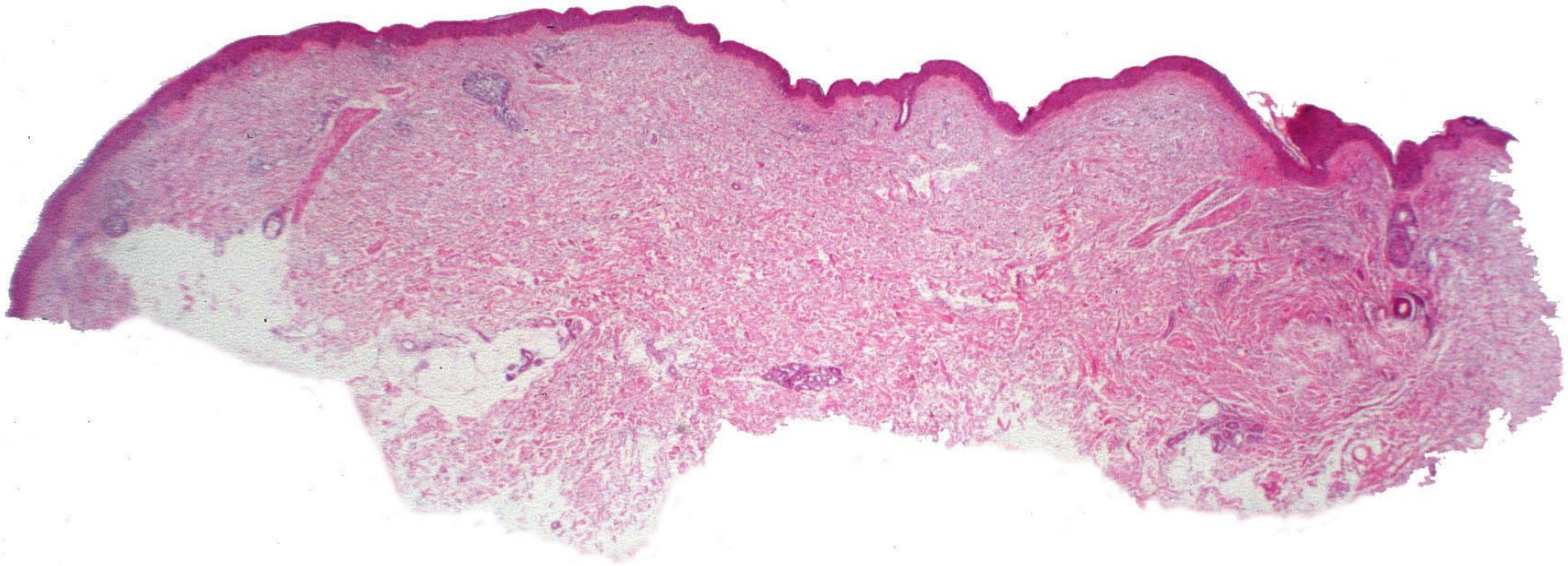


One reason for that demand is the enhanced probability to capture at least one hair follicle. In many dermatoses, involvement of hair follicles is essential for histopathologic diagnosis,



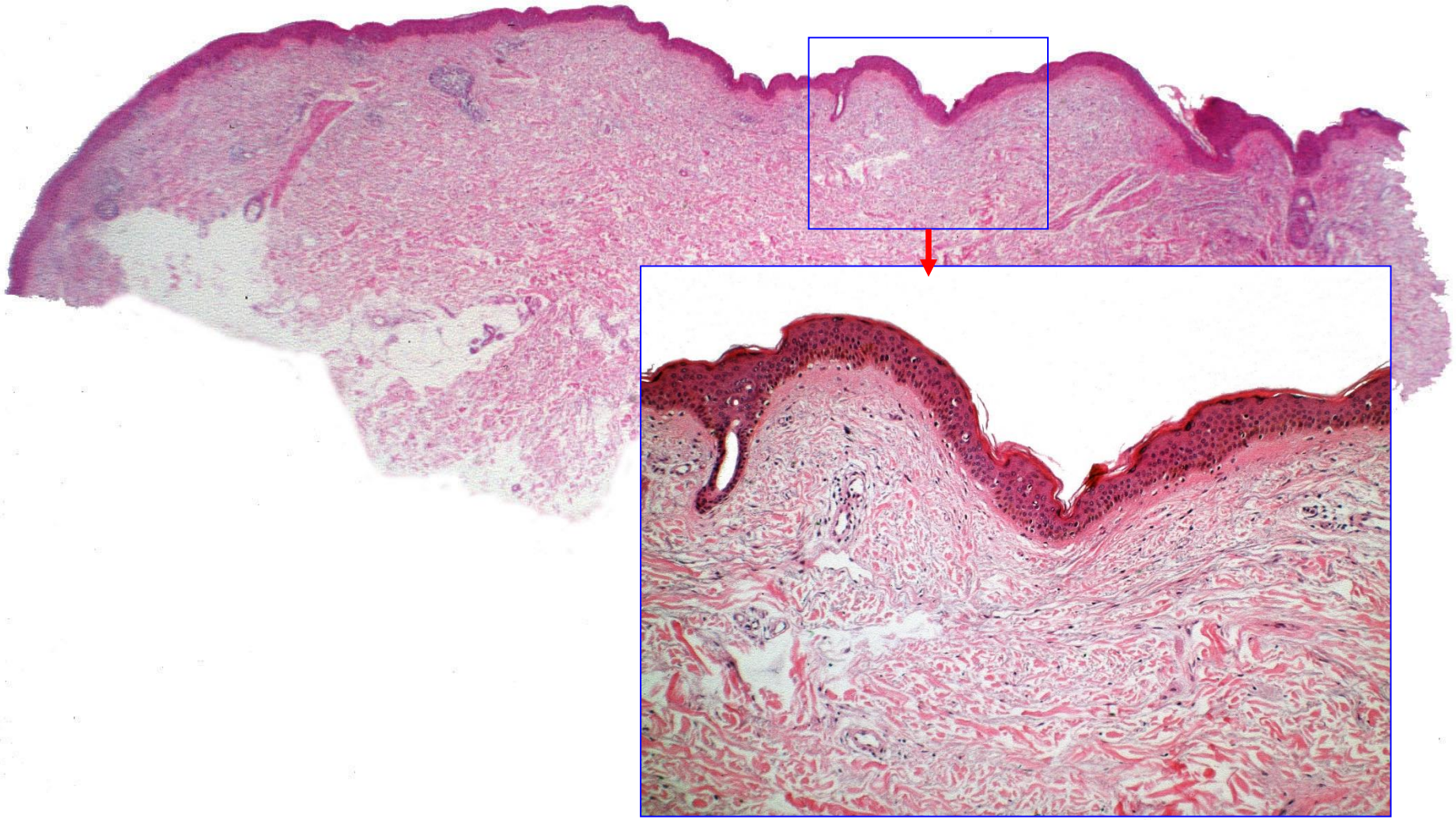
as in this case of mycosis fungoides, and 2-mm biopsy specimens often do not reveal a single follicle, even if multiple step sections are cut. Another reason for demanding at least 4 mm is the enhanced probability to capture focal changes.

“broad enough”



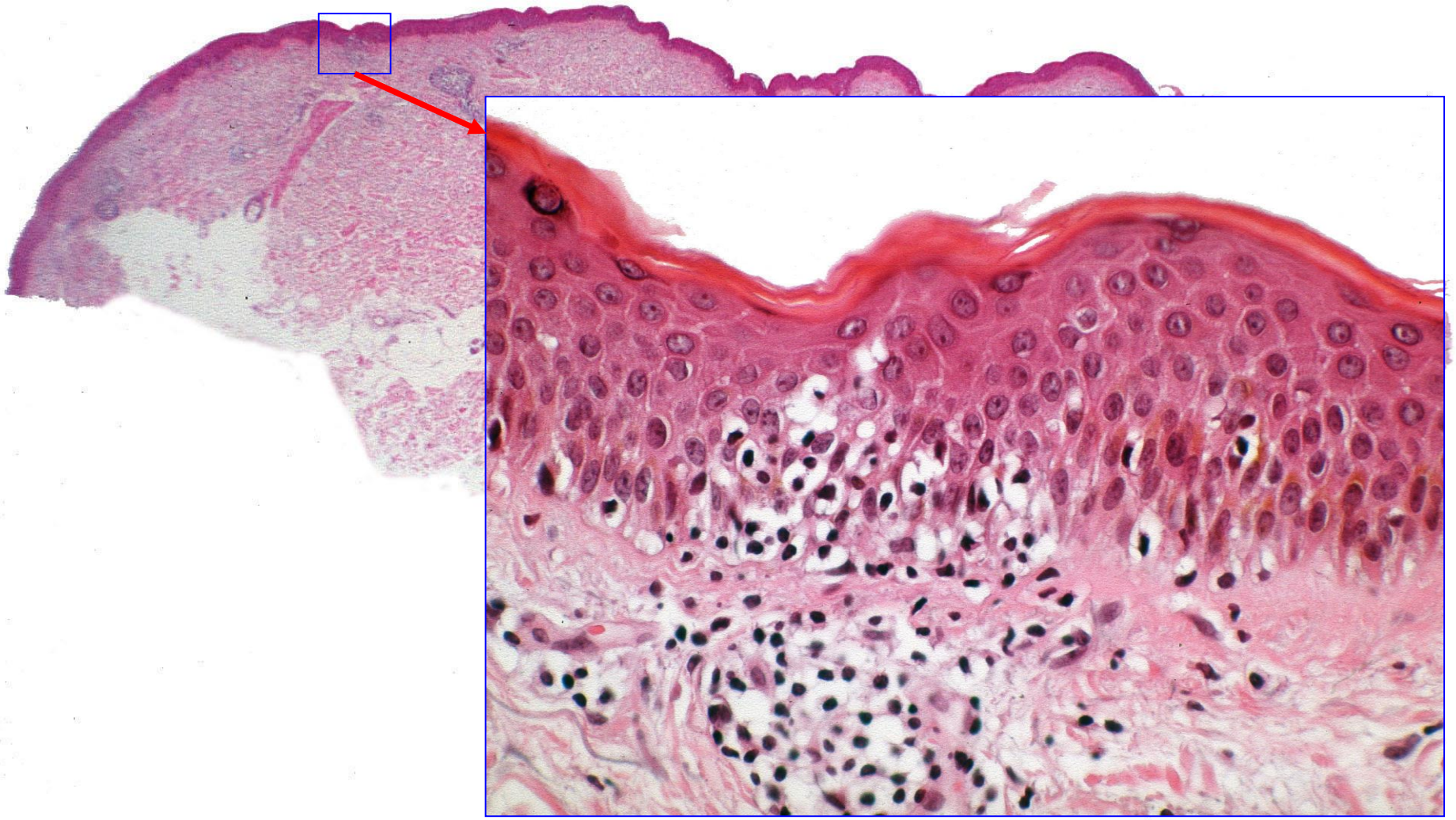
This is also mycosis fungoides in the early patch stage – a very large biopsy specimen

“broad enough”

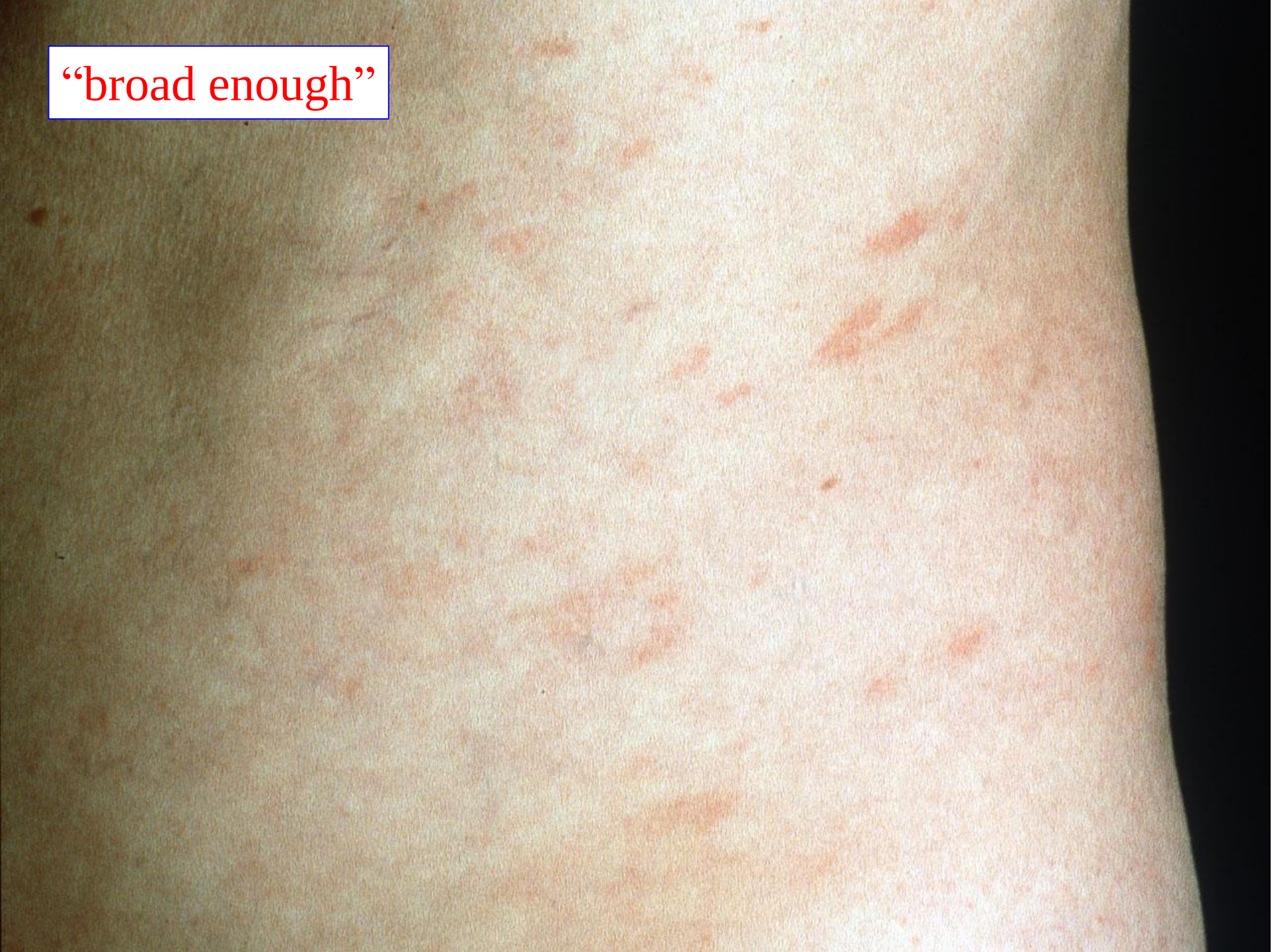


that shows mostly normal skin. The diagnostic histopathologic findings –

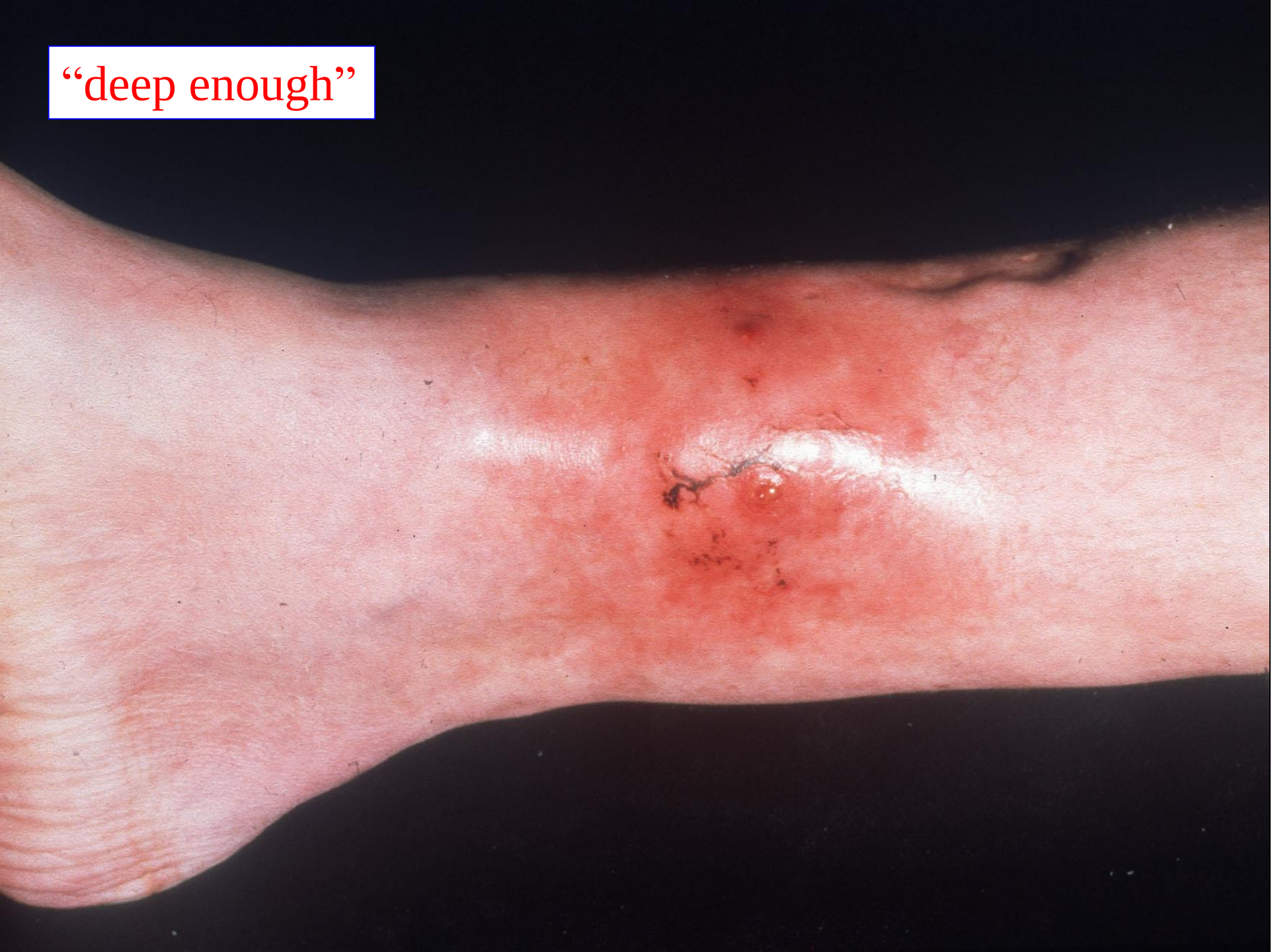
“broad enough”



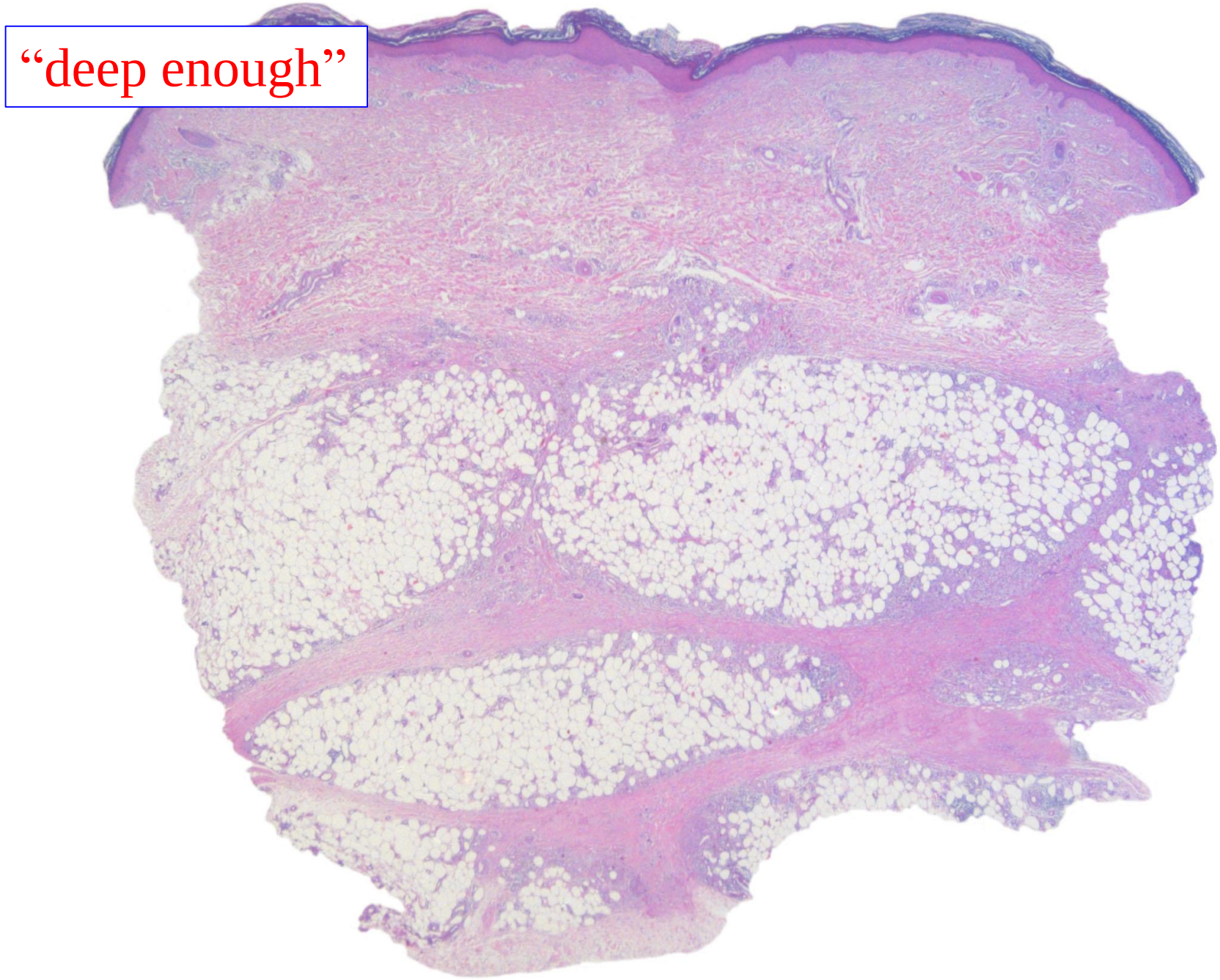
many lymphocytes with large nuclei in the epidermis in concert with only scant spongiosis – are limited to a tiny focus, and they probably would not have been exposed by a small punch. This large biopsy allowed the diagnosis to be made



which is important for the patient and much better than wobbling around for years.

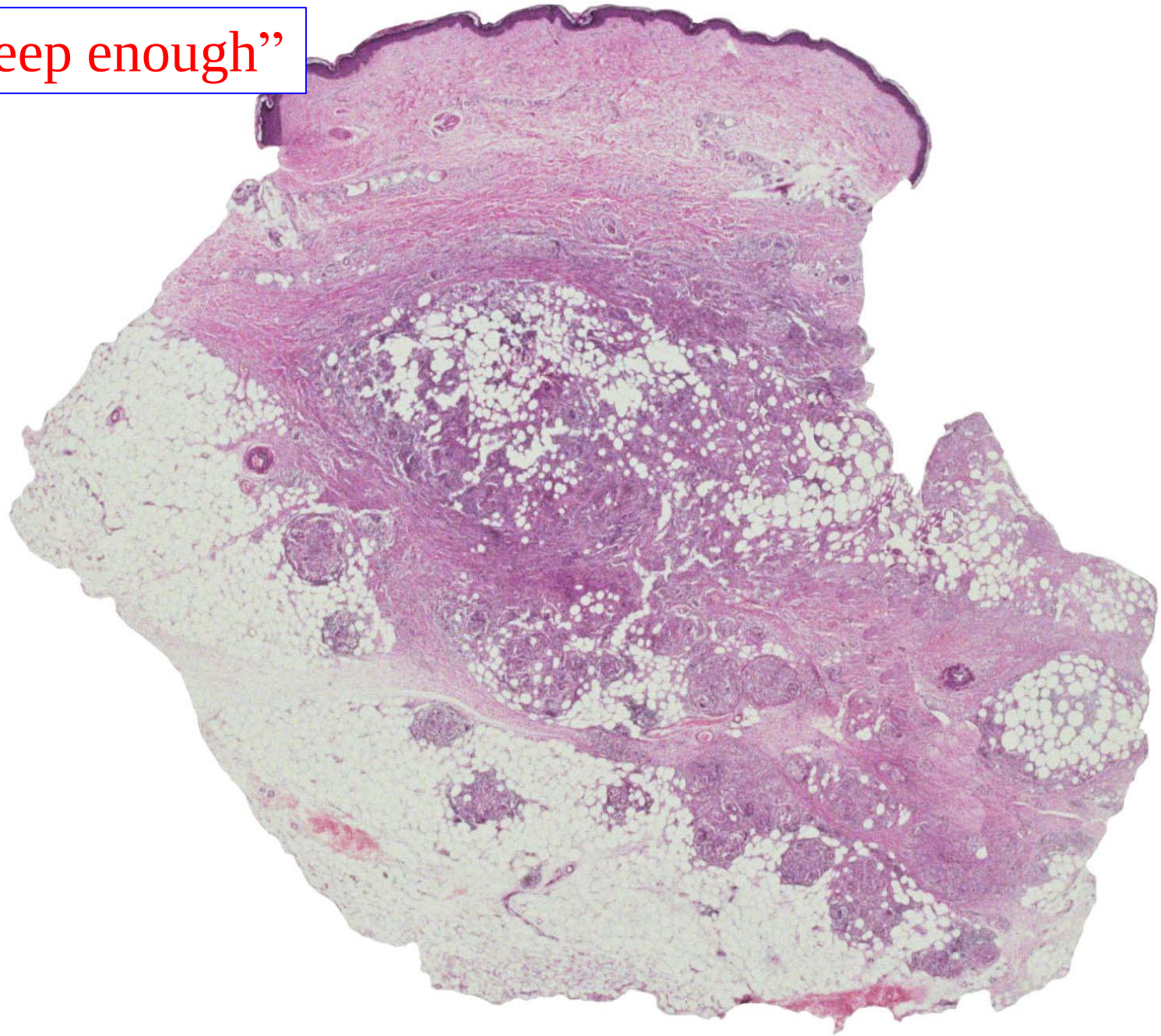


“Deep enough” means that all involved layers of the skin must be sampled. In regard to panniculitides, this implies a broad and deep biopsy with a scalpel. There are two reasons.



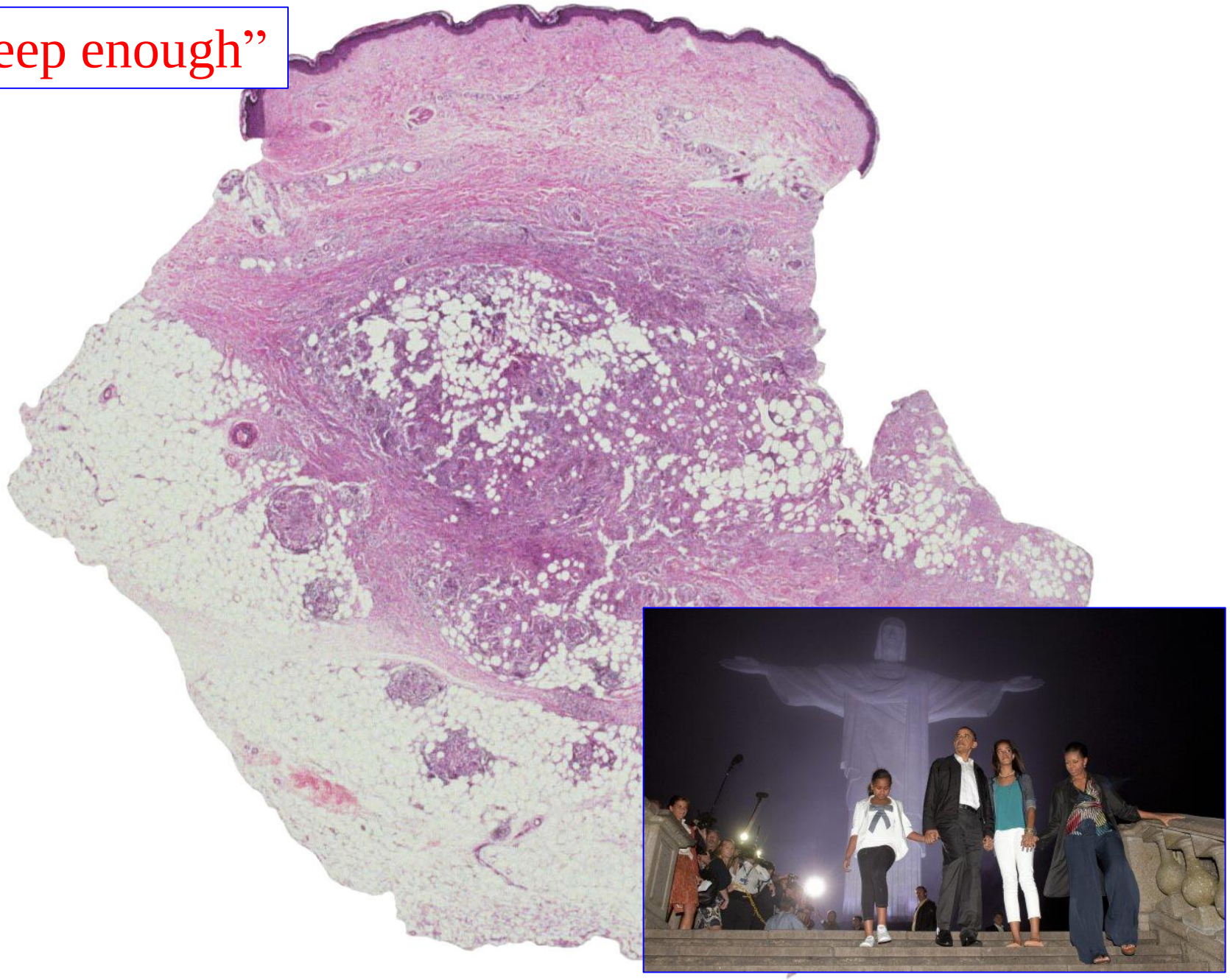
First, it is important for histopathologic diagnosis whether the infiltrate affects chiefly the septa of the subcutis, as in this case of erythema nodosum,

“deep enough”

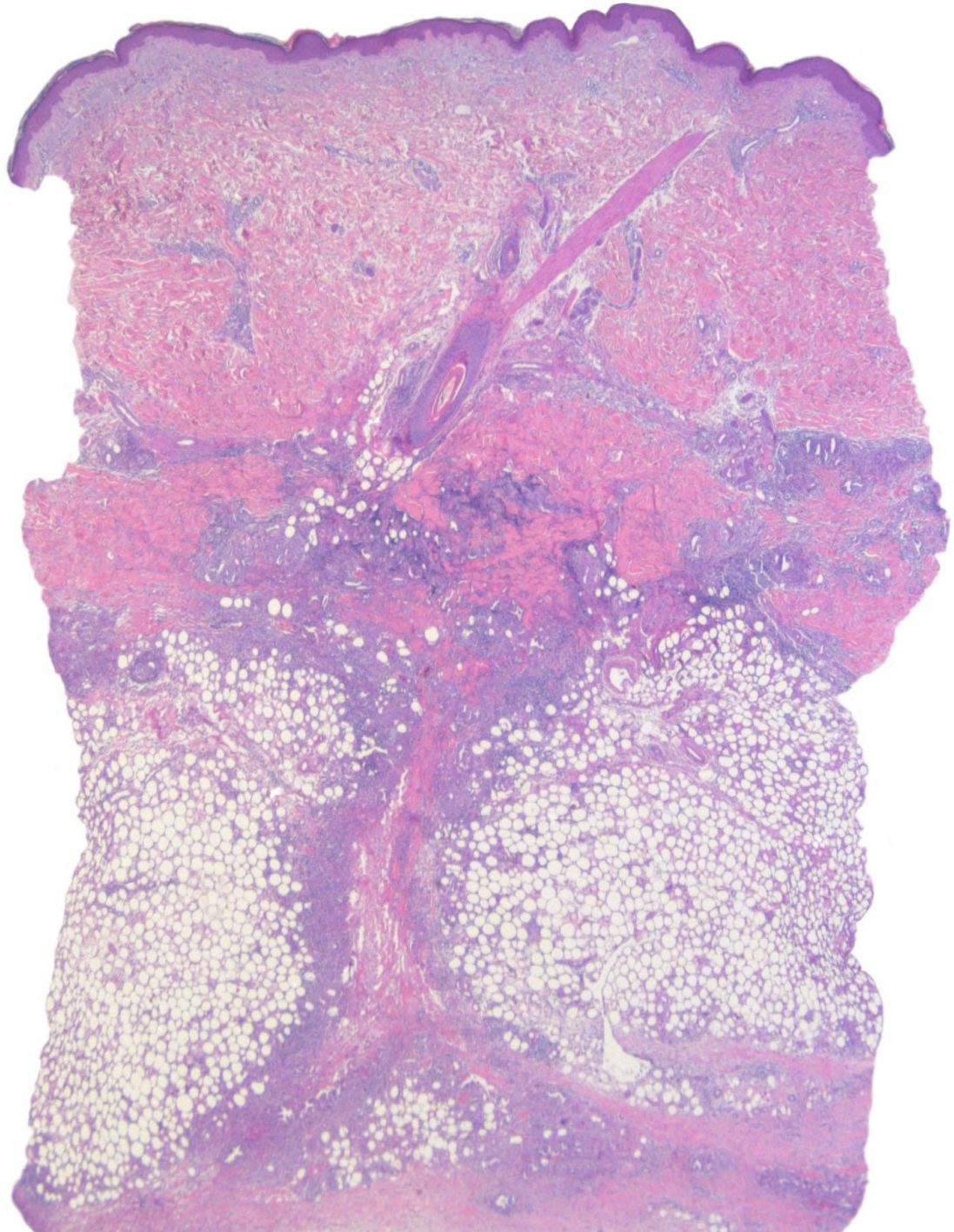


or the lobules of it, as in this case of erythema induratum. Second, the fatty tissue is very delicate and vulnerable. If compromised by inflammation, it may be dissolved completely if lobules are not stabilized by septa. Therefore, septa must be included, as has been done in this elliptical biopsy performed with a scalpel. The need for deep elliptical biopsies is emphasized in all textbooks, but, in reality, a biopsy such as this one

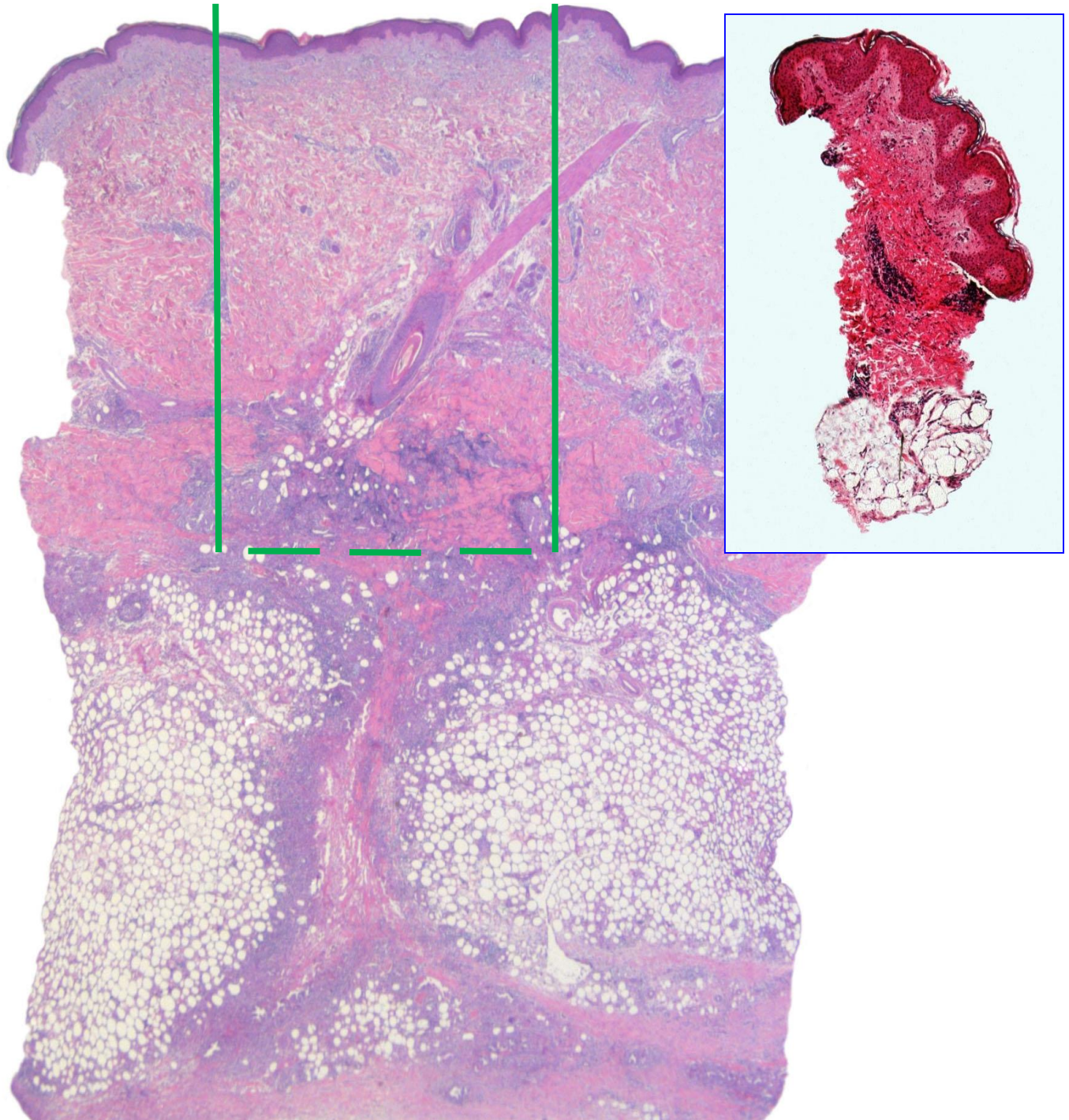
“deep enough”



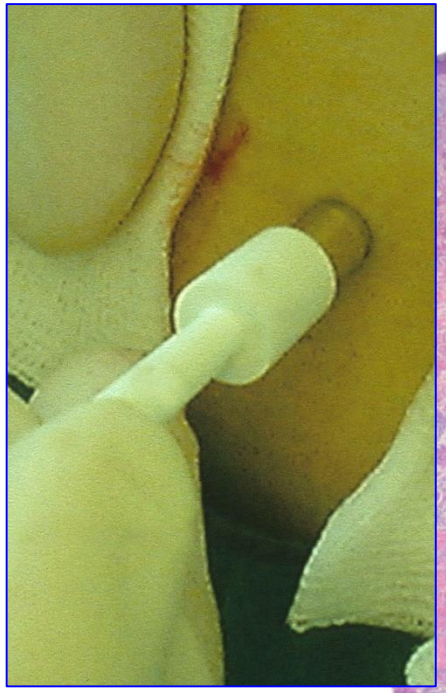
is as rare as a state visit of an American president in Brazil: it happens every few years.

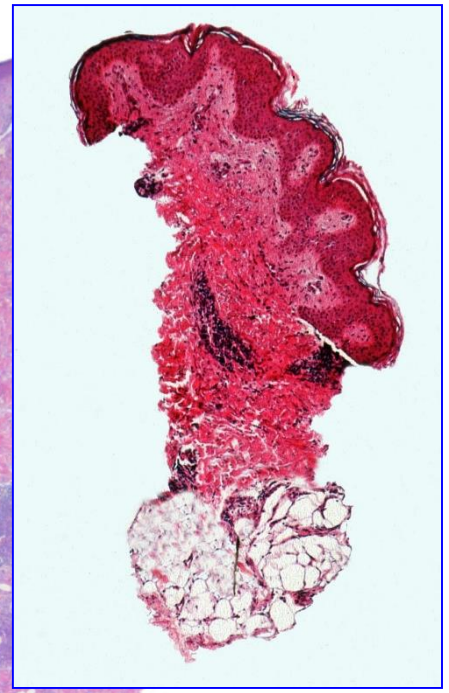


Most biopsies for panniculitides are performed with a punch. If the punch is big enough – at least 6 mm – it may reveal diagnostic findings, but most of time,

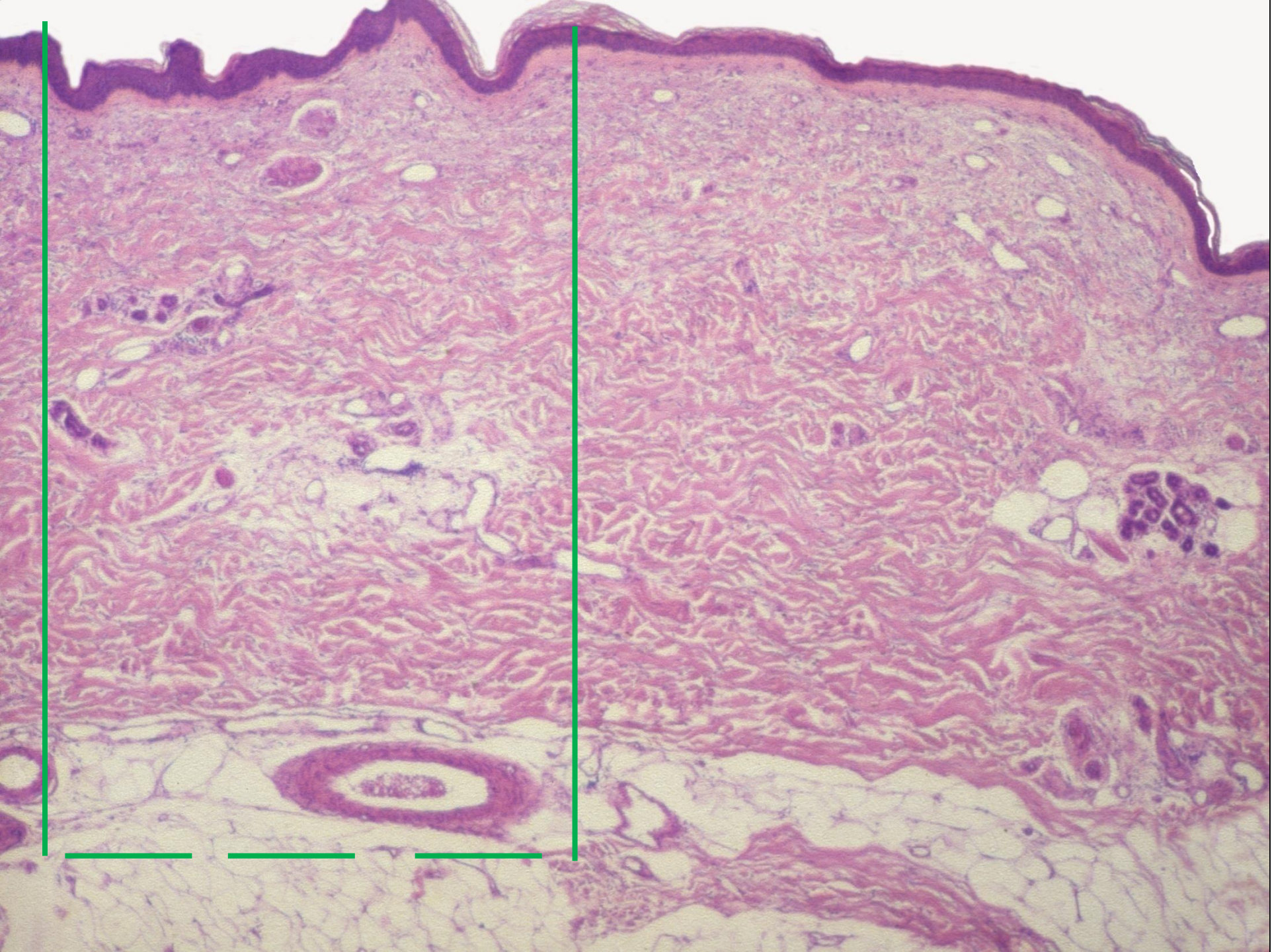


the punch is smaller and either samples no fatty tissue at all or just a tiny bit that allows no diagnosis to be made.

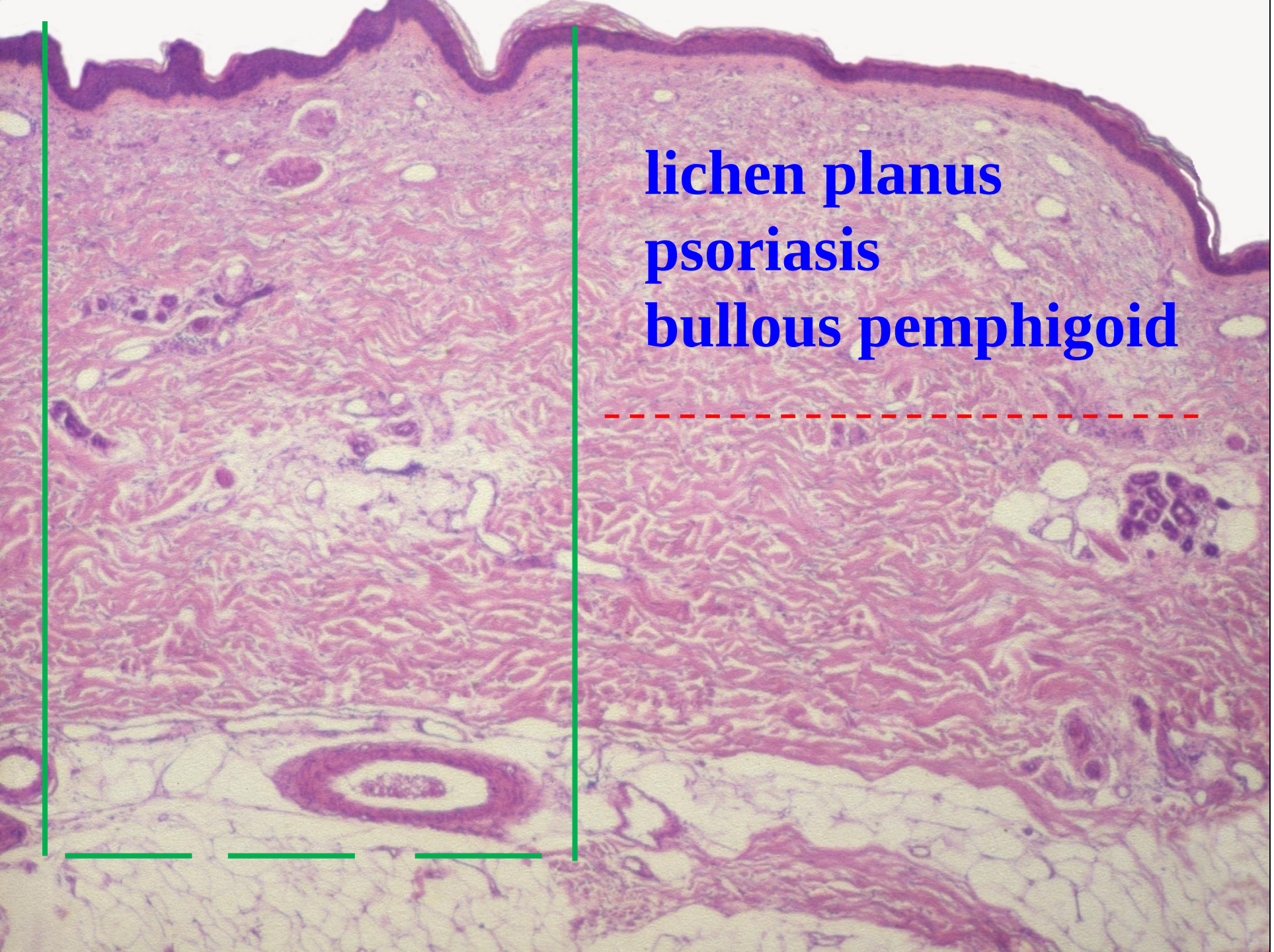




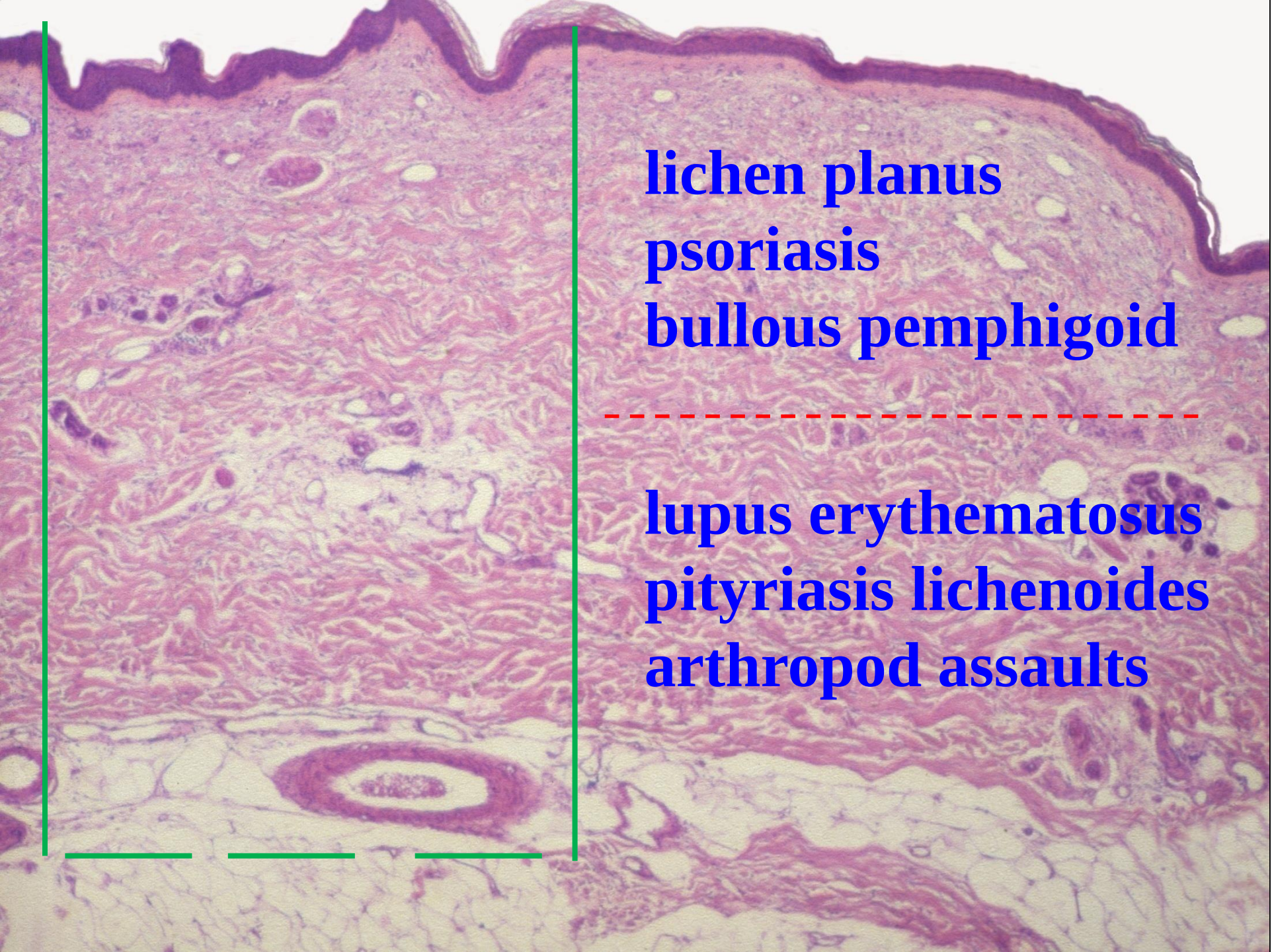
Assessment of the distribution of the infiltrate is important not only for diagnosis of panniculitides, but also dermatitides. Therefore, the entire dermis should be sampled which is best accomplished with a punch.



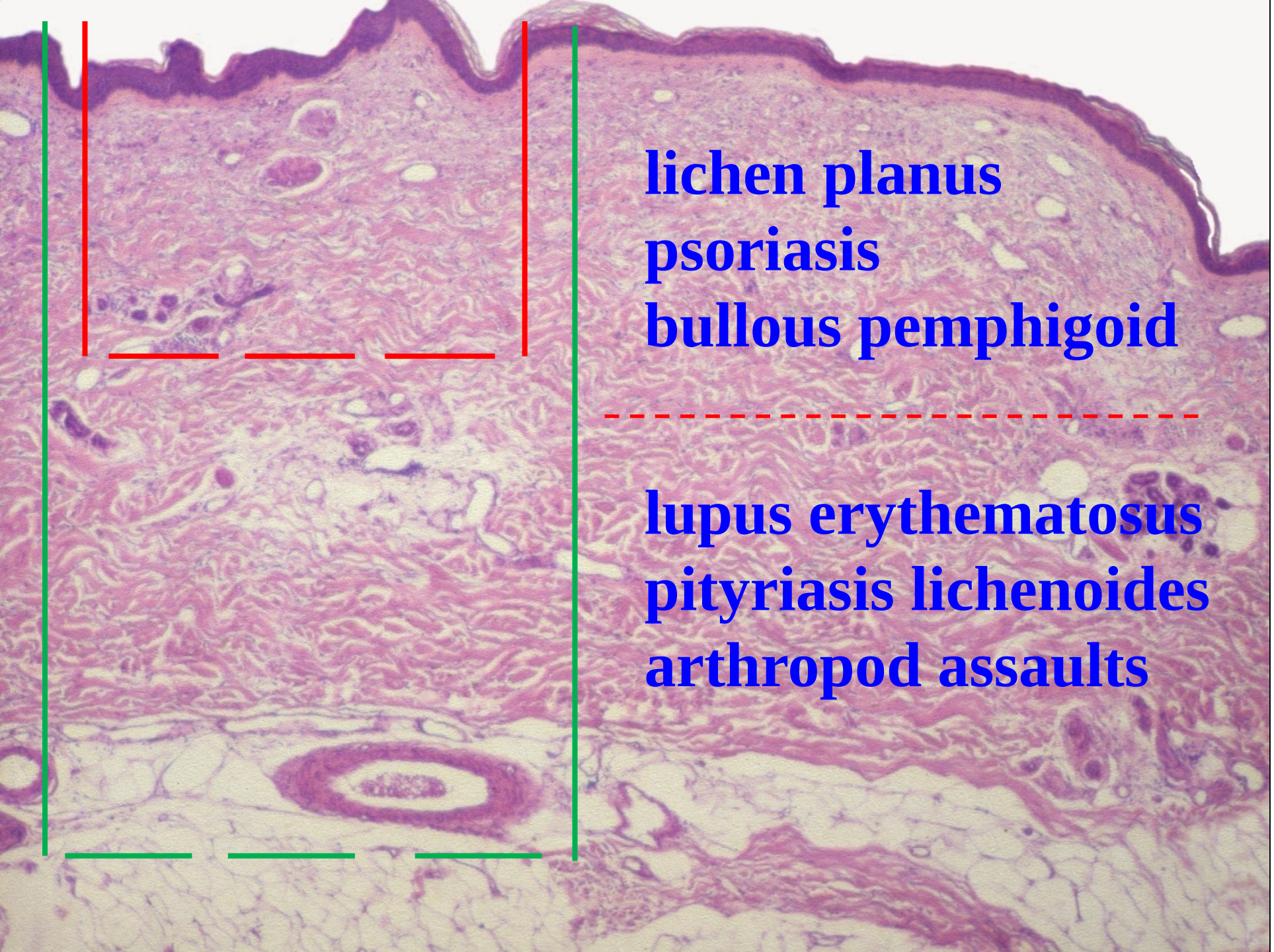
Only a biopsy including the entire depth of the dermis allows superficial and deep infiltrates to be distinguished from one another. This is important



because, in some inflammatory dermatoses, such as lichen planus, psoriasis, and bullous pemphigoid, the infiltrate is nearly always confined to the superficial vascular plexus at the border between papillary and reticular dermis.



In others, such as LE, pityriasis lichenoides, and responses to arthropod assaults, it extends to the deep plexus at the border between dermis and subcutis. Those differences may be critical for diagnosis. Some colleagues, however, hesitate over going so deep because of fear of bleeding. Of course, one of those vessels may be damaged, but none of them is the aorta. Some pressure or a suture, and bleeding stops. One should not be too reluctant,



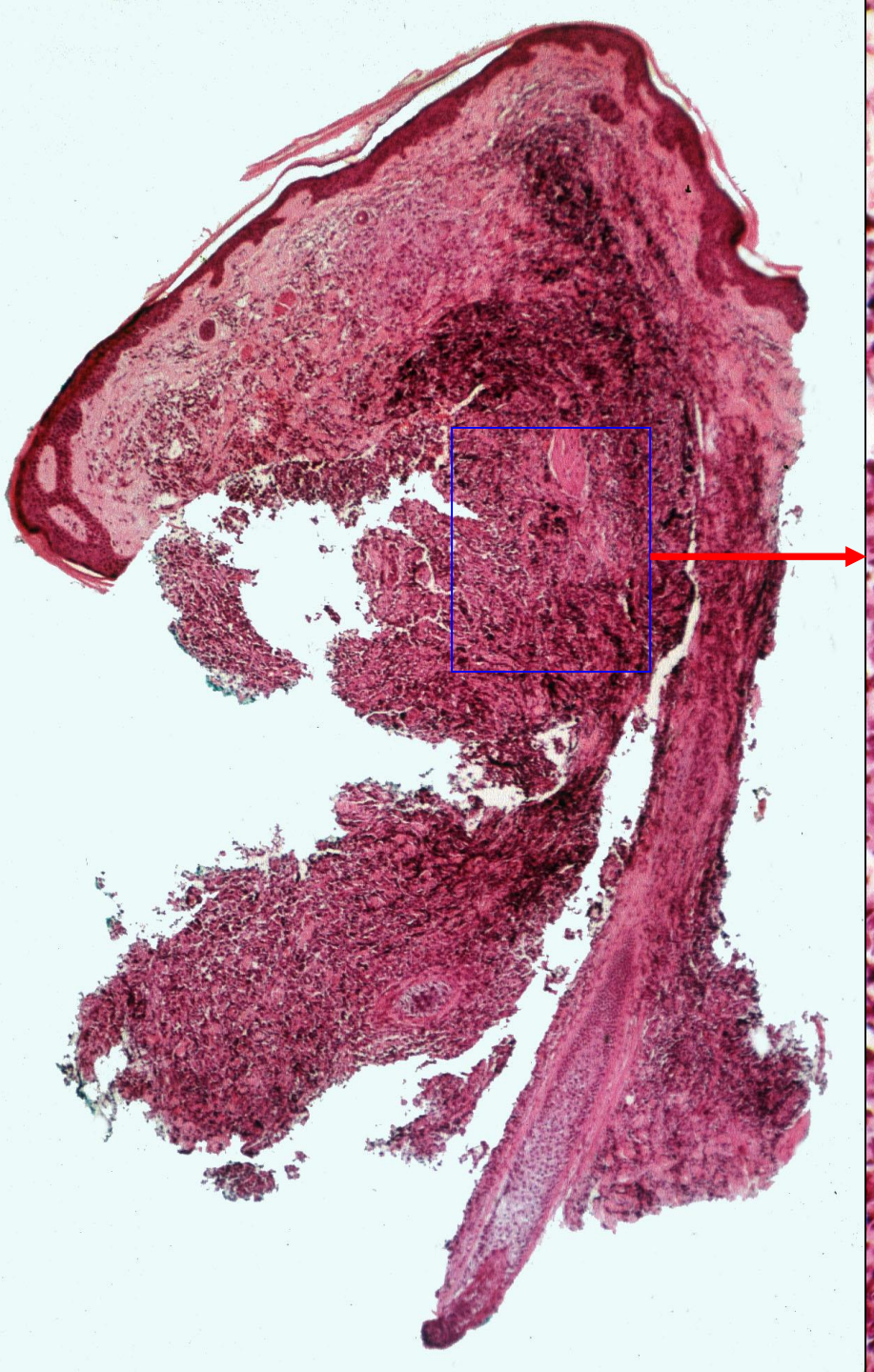
the reason being that pressure artifacts are common if the punch is not inserted deep enough. In that instance, the base of the specimen is not formed by delicate fatty tissue that does not resist the withdrawal of the specimen, but by coarse collagen fibers of the reticular dermis. Those collagen fibers have one major function: holding together. There is a reason that the reticular dermis is used for producing leather,

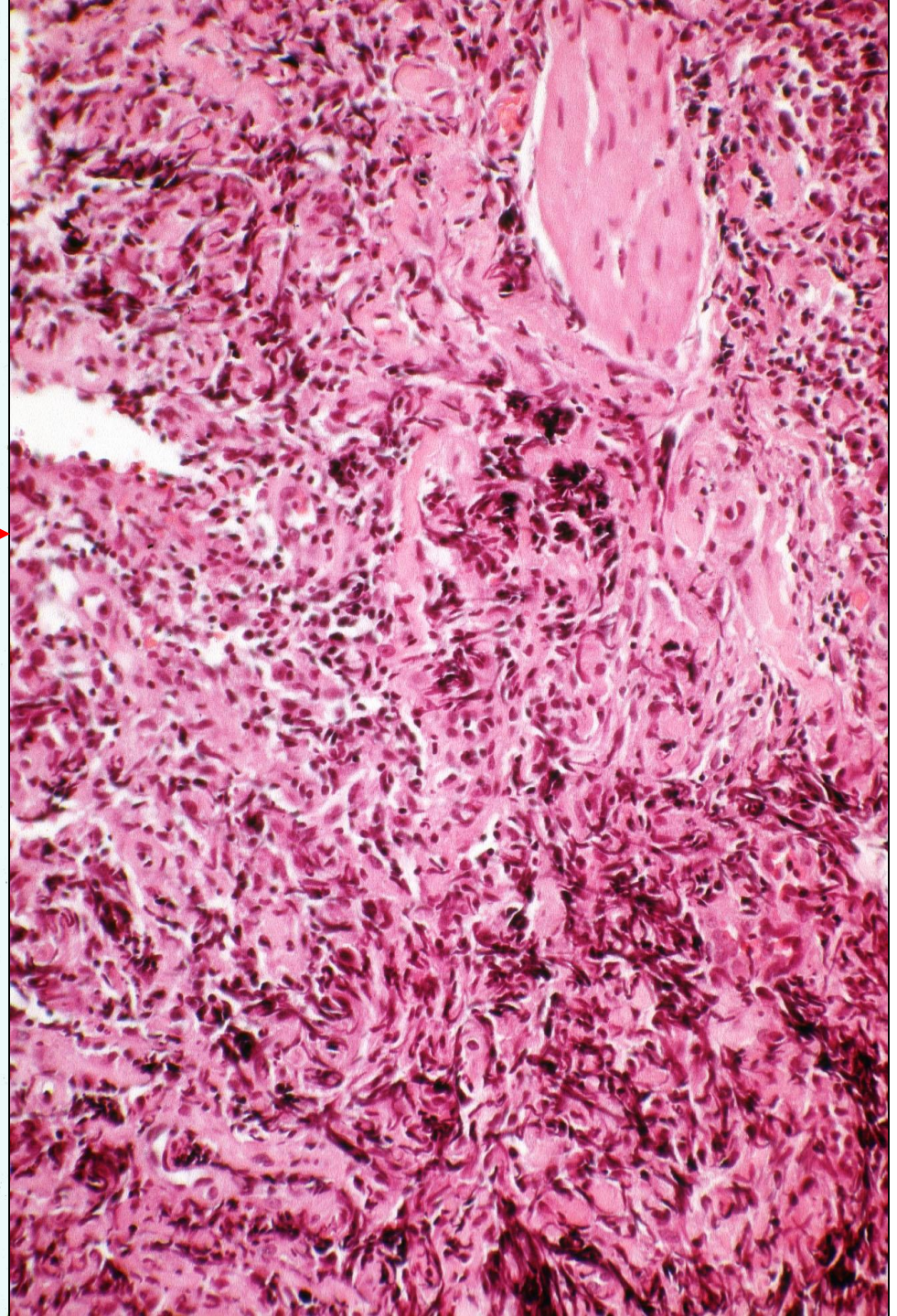
lichen planus
psoriasis
bullous pemphigoid

---

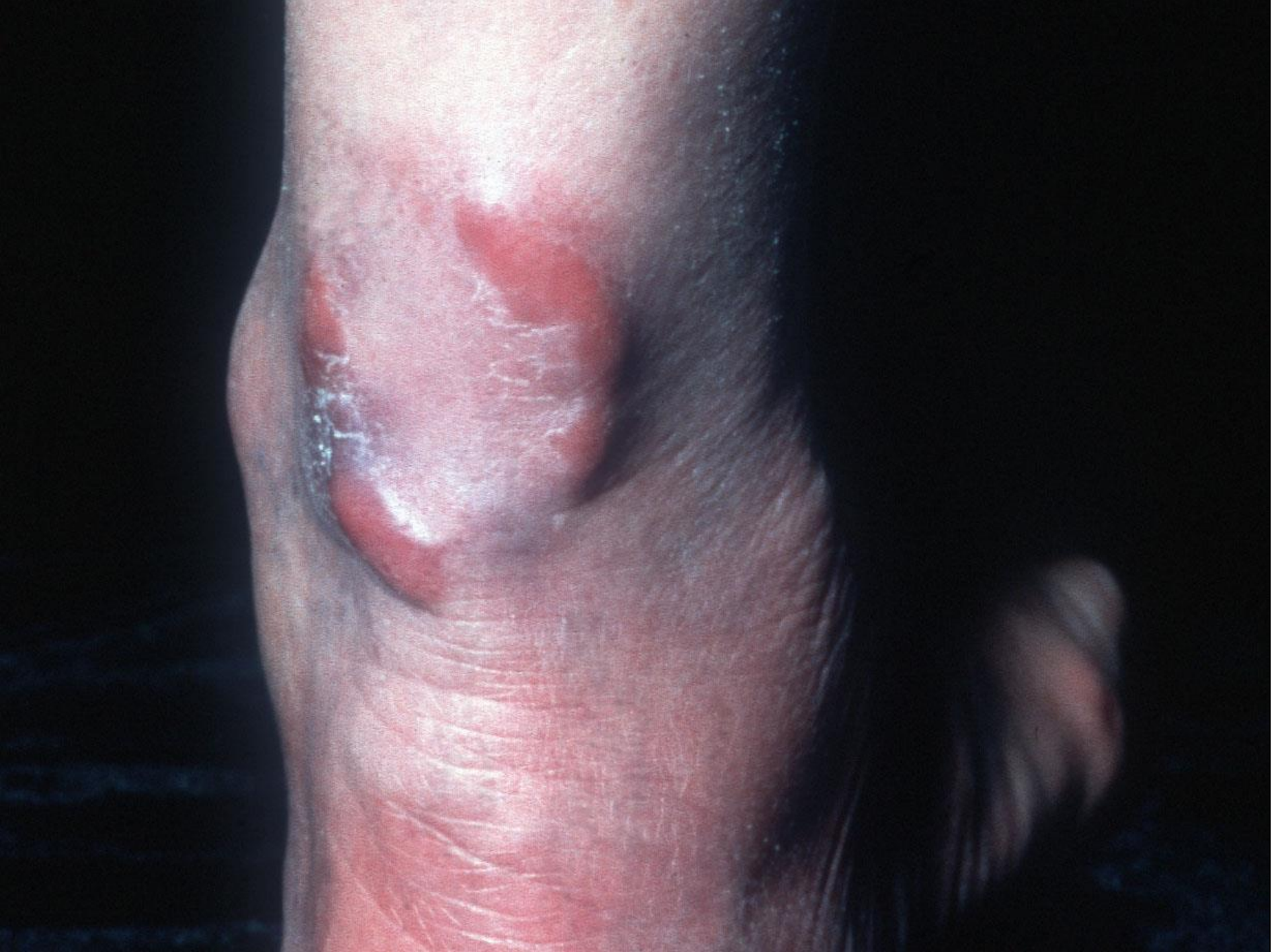
lupus erythematosus
pityriasis lichenoides
arthropod assaults

and no motor-bike racer would consider to enter the race with a suit made of fat.
If there are coarse collagen fibers at the base of a shallow punch biopsy specimen, the latter cannot be removed easily, and all too often,





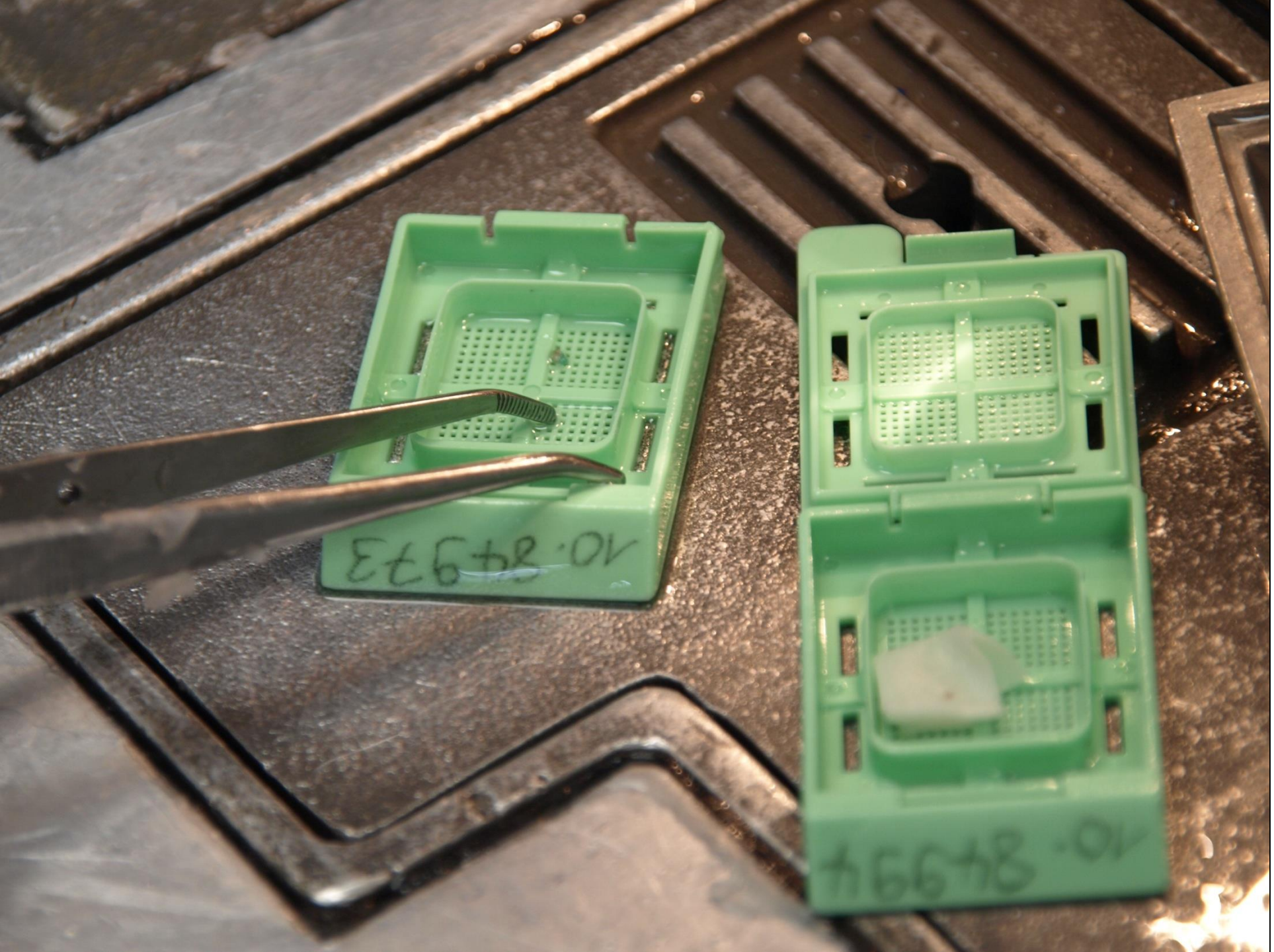
this is the result: One still sees the murderous grasp of the forceps but only little else because all cells have been crushed. The density of the infiltrate suggests a lymphoma but, of course, in the case of lymphoma, cytologic features are essential for a specific diagnosis, and the latter cannot be assessed. Massive crush artifacts such as these are seen most commonly with very dense infiltrates, the reason being that cells have no place to move when pressure is exerted by the forceps. Instead of being shifted left or right, they are pressed against each other.



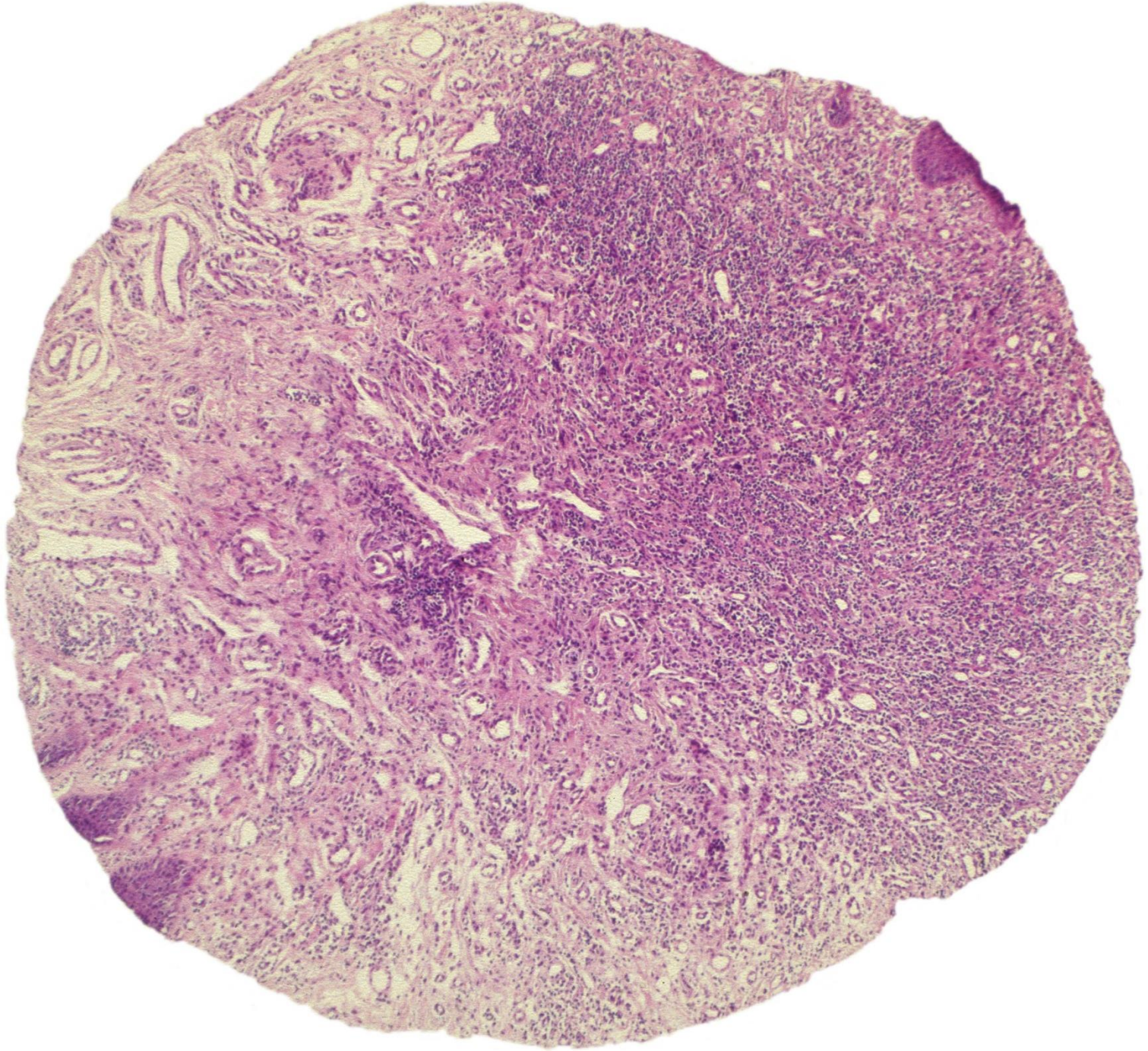
In such cases, the specimen must be handled like a raw egg. The density of the infiltrate can already by discerned clinically and serves as an alarm signal: in lesions that solid, the biopsy should not be too small – 6 mm, if possible – because crush artifacts may then be confined to the periphery and may spare the center of the specimen,

and the specimen should not be grasped with the forceps but should be held very gently at one edge

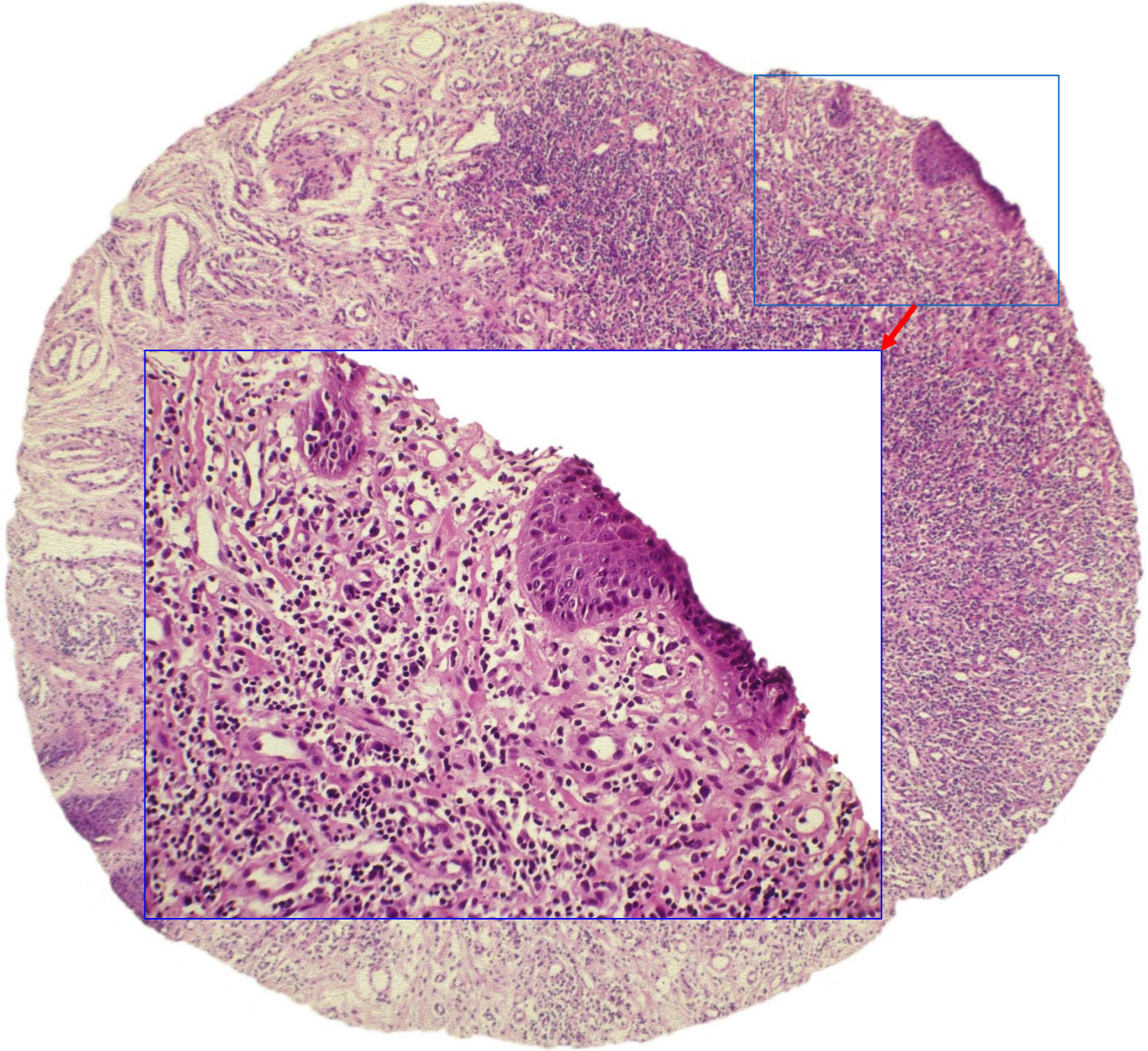
or should be poised into the sample bottle.
This is a 6-mm punch biopsy specimen that allows the different layers of skin to be discerned clearly. Hence, it can be processed with precision.



The smaller a specimen gets, the more difficult it is to distinguish macroscopically top from bottom, and it may happen easily that the specimen is embedded at a wrong angle and is cut tangentially,



as in this example from the oral mucosa. The biopsy came under clinical differential diagnosis of oral lichen planus or squamous-cell carcinoma. Only a tiny bit of epithelium is exposed,



and it does not show any nuclear atypia, but, of course, diagnostic judgment is hampered severely. Once a small biopsy specimen has been embedded and cut at a wrong angle, re-embedding often does not help because most of the lesion is already gone.

Proficiency Evaluation of Clinical Chemistry Laboratories

G. F. Grannis, H.-D. Grümer, J. A. Lott, J. A. Edison, and W. C. McCabe[1]

The problem of pr
chemistry laborato
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terms of the proficie
the occurrence of
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and its use is illust
marize basic quality
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laboratory results, a
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Additional Keyphra
analytical accuracy, laboratory performanc vidual variability • tional chart • o evaluation • qualit laboratories

Table 6. Frequency of Laboratory Mistakes

Type of Mistake	Rate of occurrence (mistakes per 100 specimens) 1/1/69–12/31/70		
(1) Specimen mix-up	0.89		
(*a*) clerical area		(0.35)	
(*b*) specimen preparation area		(0.12)	
(*c*) analytical areas		(0.42)	
1. manual area			(0.13)
2. AutoAnalyzer area			(0.13)
3. enzyme area			(0.16)
(2) Incorrect chart readings	0.66		
(3) Dilution and calculation	0.60		
(4) Poor reagent or standard solutions	0.75		
(5) Other, or unexplained	0.56		
(6) Mistakes in Proficiency Laboratory	0.19		
Total:	3.65		

Chemistry Laboratory functions as an y, and has provided performance of the and to obtain oby. In this report we principles of laboratand illustrate some am in identifying ng the performance with that of other boratory mistakes. to emphasize both unity for improved ry laboratories.

tory

based primarily on ure introduced by urther described by Copeland (*9*) and Sax et al. (*10*). Commercial

Yet another drawback of very small specimens is the diminuished chance to detect a specimen mix-up which is not uncommon. This is an important issue not only in laboratory medicine but also in dermatopathology, but I do not want to dwell on it now, as it is the subject of a separate lecture.

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Confusion—specimen mix-up in dermatopathology and measures to prevent and detect it

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1 Center for Dermatopathology, Freiburg, Germany

Keywords: histopathology, biopsy, error, mix-up, patient safety, quality improvement

Citation: Weyers W. Confusion—specimen mix-up in dermatopathology and measures to prevent and detect it. Dermatol Pract Concept. 2014;4(1):4. http://dx.doi.org/10.5826/dpc.0401a04

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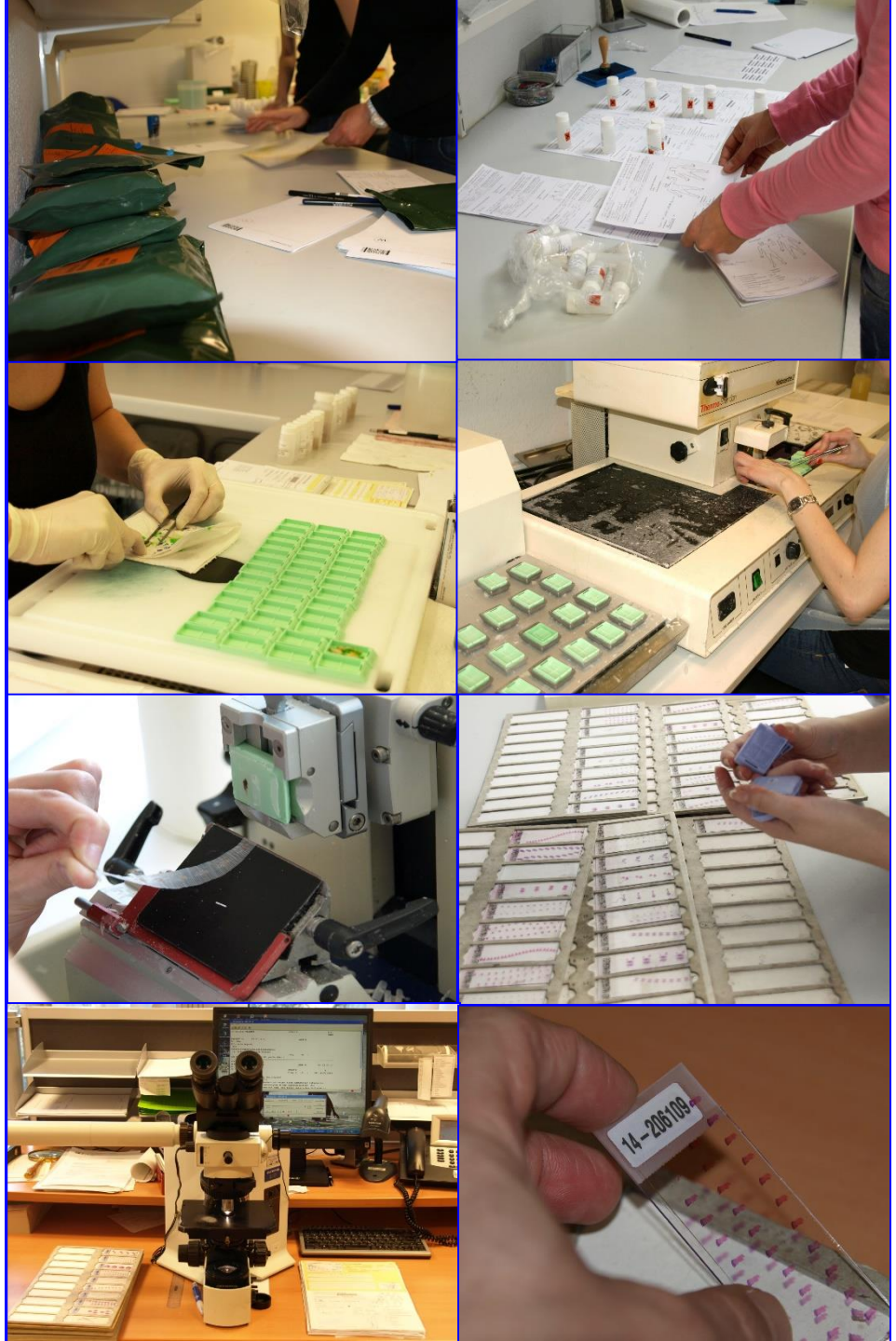
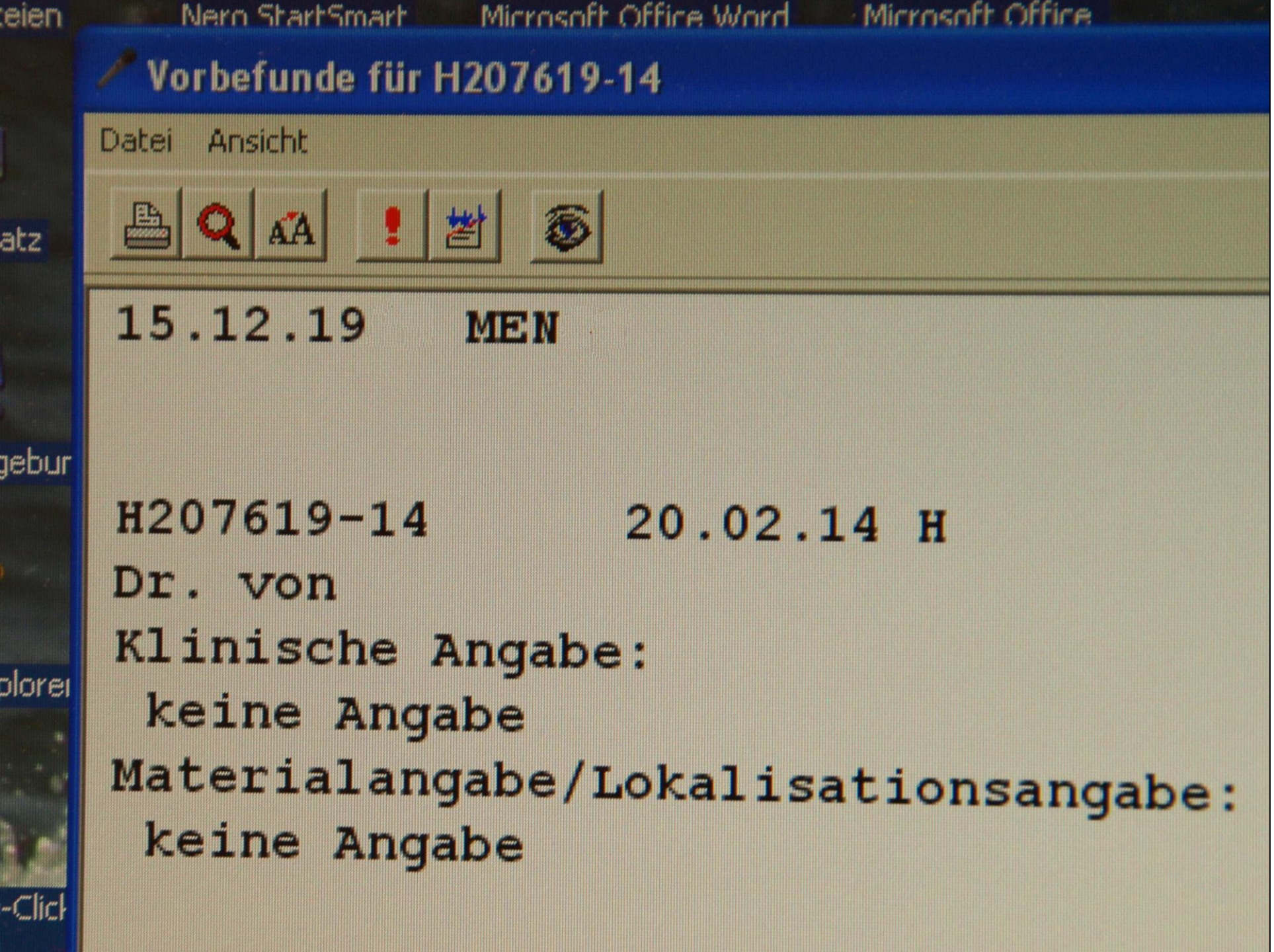
ABSTRACT Maintaining patient identity throughout the biopsy pathway is critical for the practice of dermatology and dermatopathology. From the biopsy procedure to the acquisition of the pathology report, a specimen may pass through the hands of more than twenty individuals in several workplaces. The risk of a mix-up is considerable and may account for more serious mistakes than diagnostic errors. To prevent specimen mix-up, work processes should be standardized and automated wherever possible, e.g., by strict order in the operating room and in the laboratory and by adoption of a bar code system to identify specimens and corresponding request forms. Mutual control of clinicians, technicians, histopathologists, and secretaries, both simultaneously and downstream, is essential to detect errors. The most vulnerable steps of the biopsy pathway, namely, labeling of specimens and request forms and accessioning of biopsy specimens in the laboratory, should be carried out by two persons simultaneously. In preceding work steps, clues must be provided that allow a mix-up to be detected later on, such as information about clinical diagnosis, biopsy technique, and biopsy site by the clinician, and a sketch of the specimen by the technician grossing it. Awareness of the danger of specimen mix-up is essential for preventing and detecting it. The awareness can be heightened by documentation of any error in the biopsy pathway. In case of suspicion, a mix-up of specimens from different patients can be confirmed by DNA analysis.

Every year, hundreds of thousands of pages are devoted to diagnostic problems in medicine. In books and medical journals, physicians constantly share their experiences, advance criteria for diagnosis, and alert to diagnostic pitfalls. One tremendous pitfall, however, probably the greatest of them all, is hardly ever mentioned, namely, specimen mix-up.

The true size of that pitfall is unknown. There are only few articles about that subject and most deal with individual cases. This is not surprising because specimen mix-up would not occur if it could be recognized reliably and studied systematically. In laboratory medicine, analysis in the early 1970s of 5200 control cases smuggled into routine examinations revealed an error rate of 3.5%. The most common of those errors, occurring in 0.89% of all cases, was a specimen mix-up [1]. By contrast, in a survey conducted at hospitals of many countries, the rate of specimen mix-up was estimated

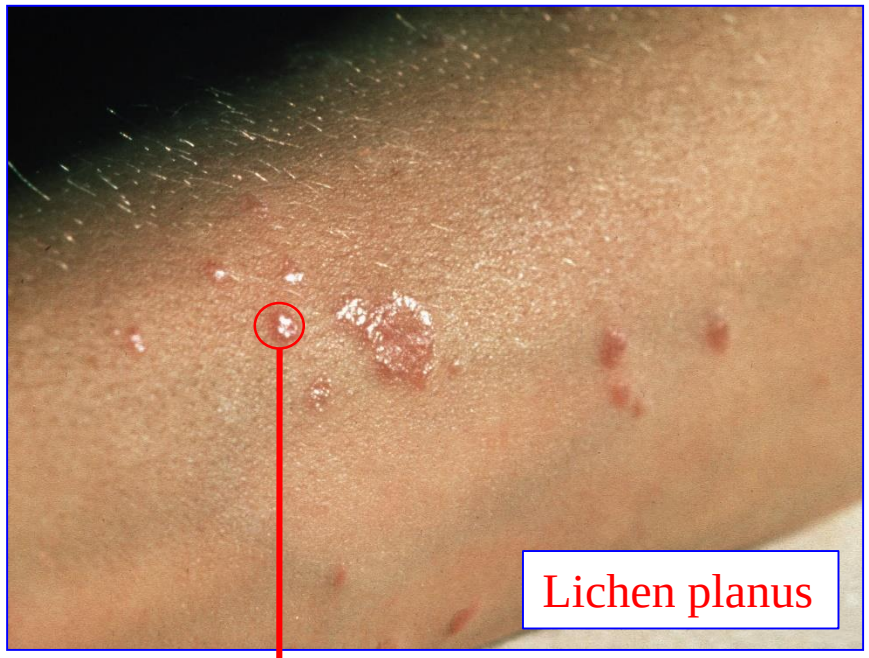


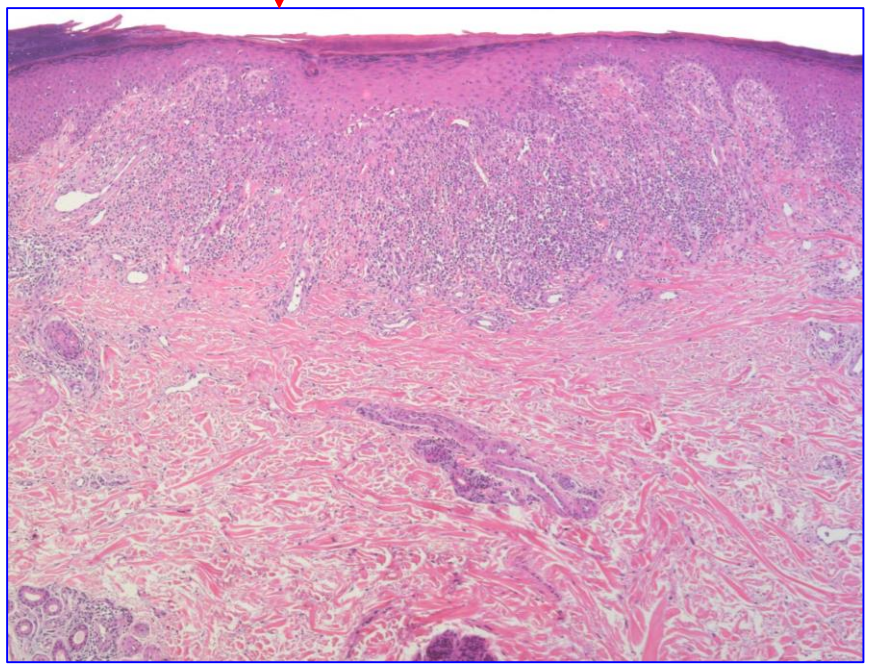
Suffice it to say that clues most critical for detection of a specimen mix-up are the size the biopsy and the clinical infomation provided. Unfortunately, there is not only a trend to smaller biopsies but also to less clinical information.

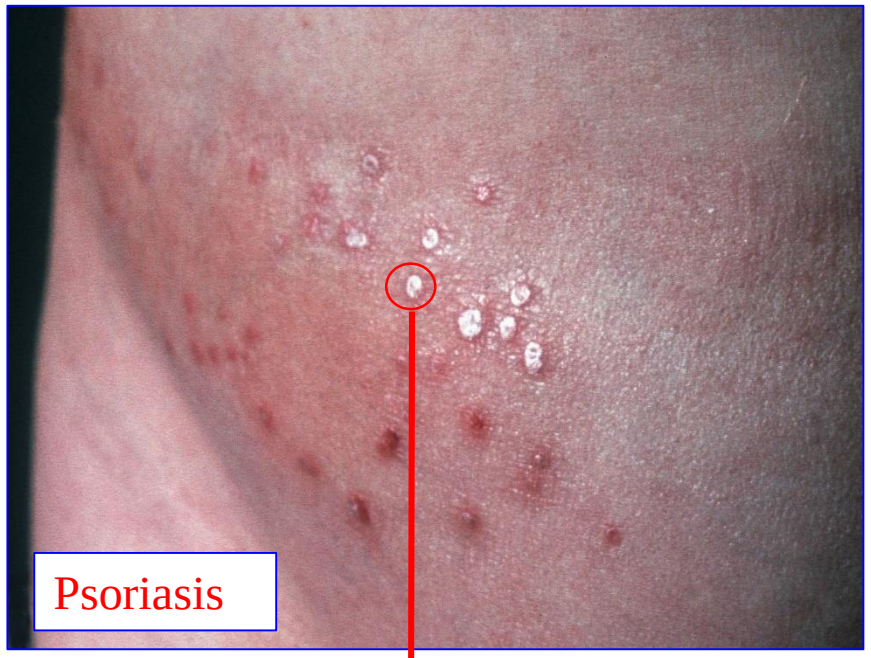


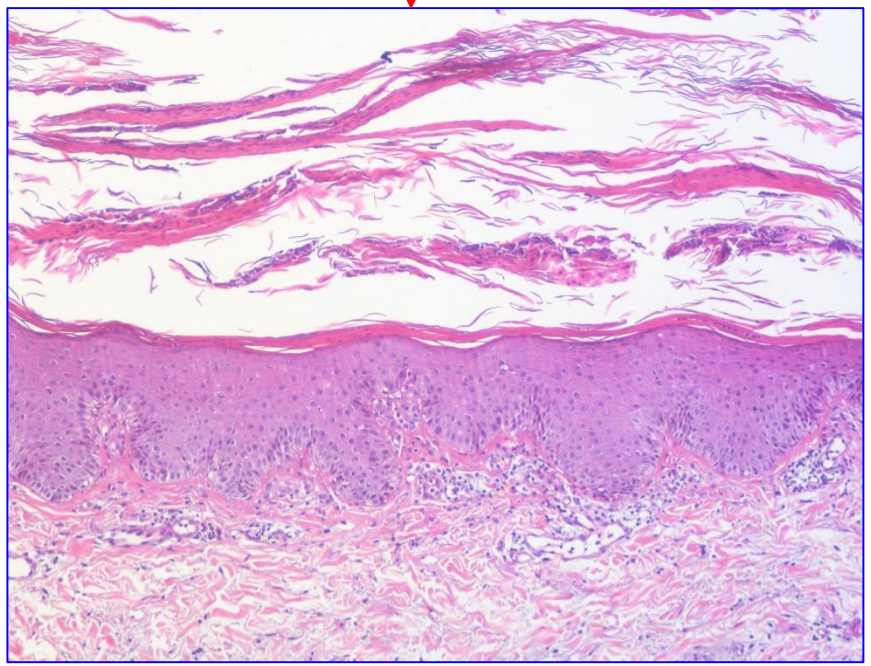
Not uncommonly, this is what the computer shows: Clinical data: no entry. Material/localization: no entry.

That attitude is becoming more and more common, and it compromises severely the ability of dermatopathologists to perform their task.

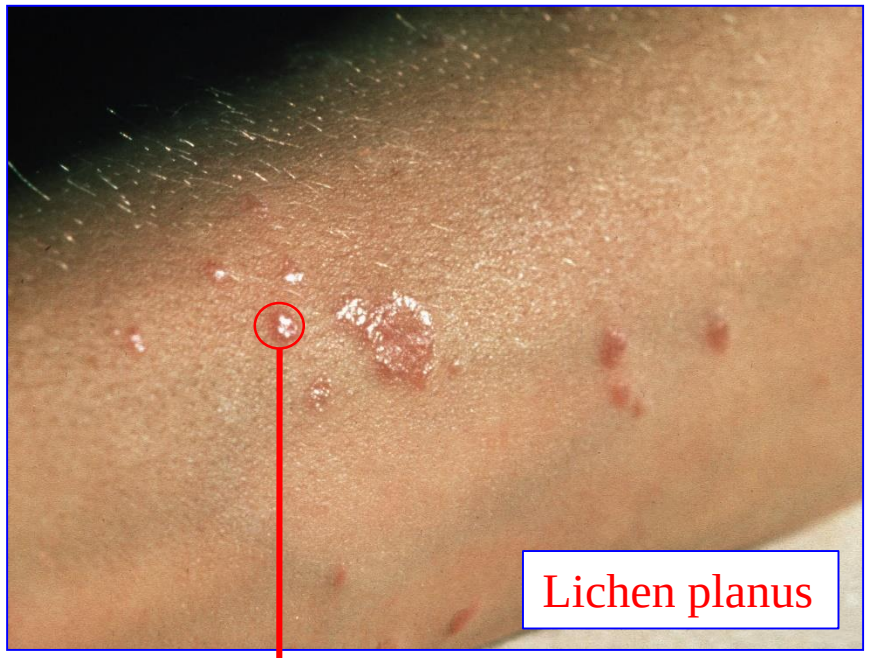


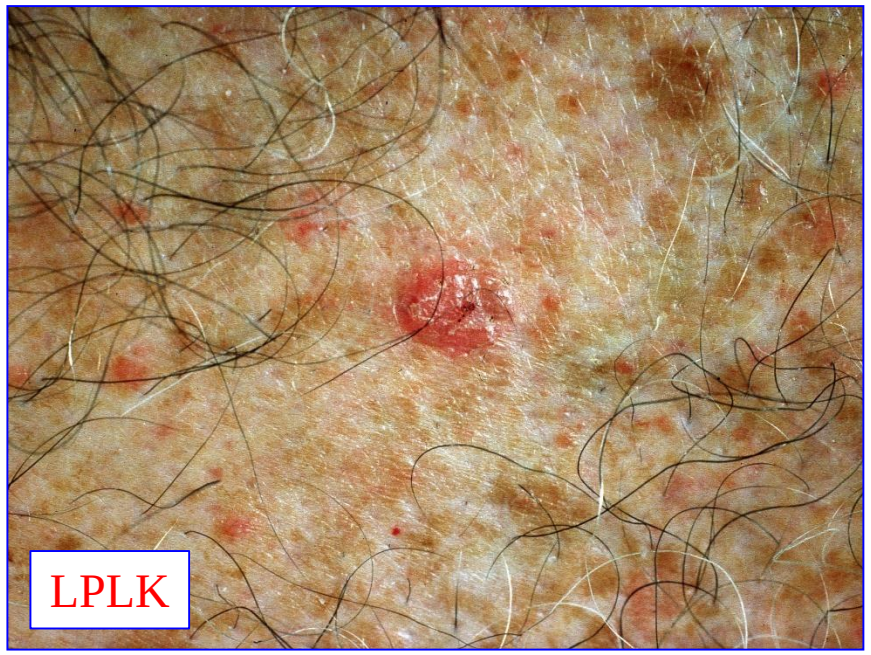


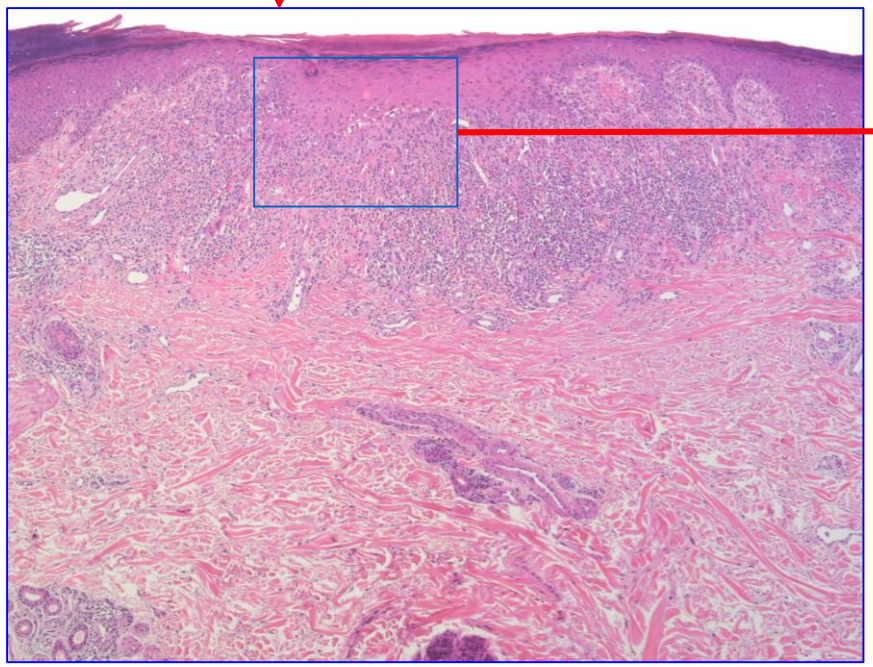


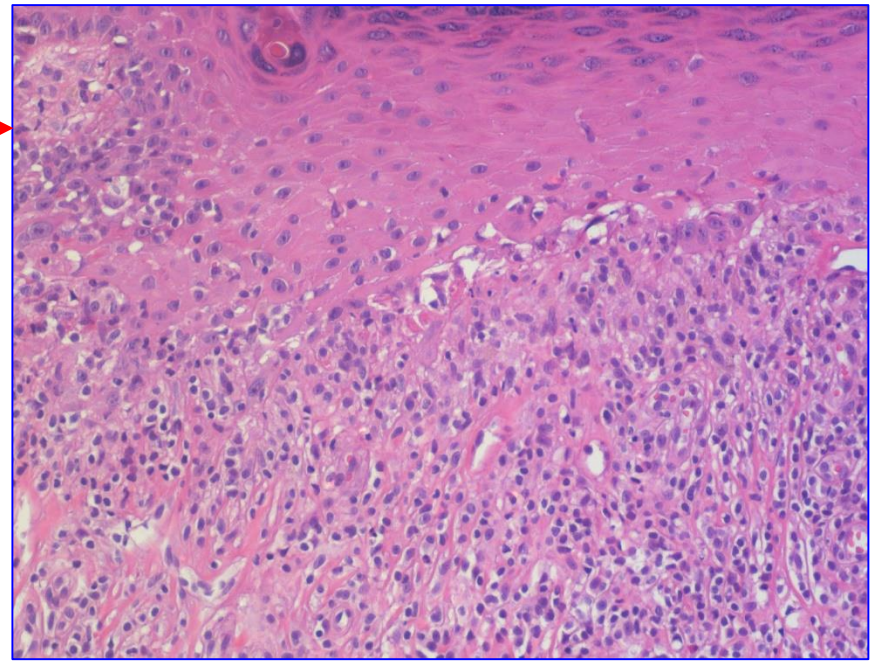


In principle, they look at the same lesion as the clinician, only from another vantage. That vantage may be extremely helpful because lesions that look similar clinically may look strikingly different under the microscope, such as lichen planus and psoriasis. The opposite, however, may also be true.

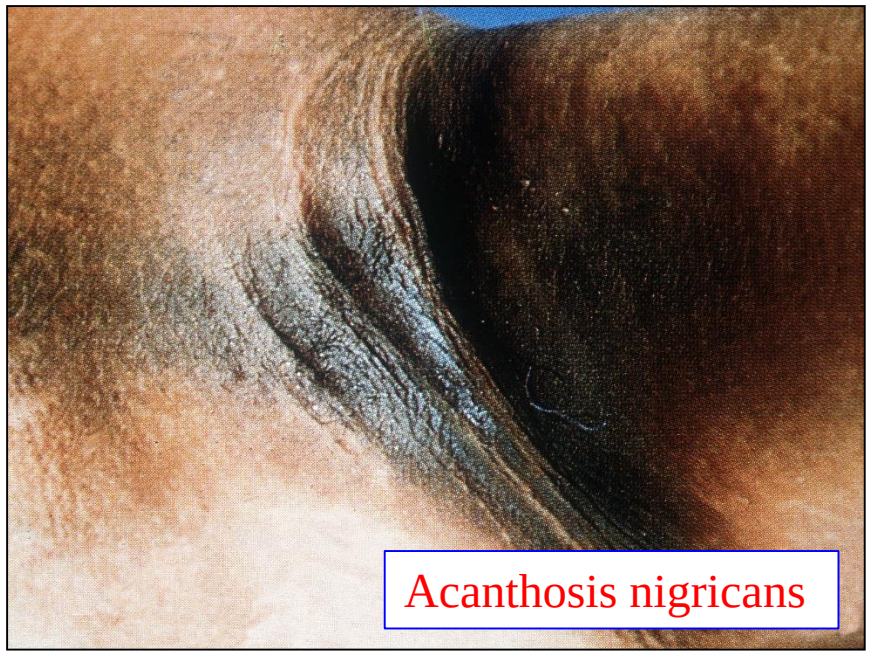


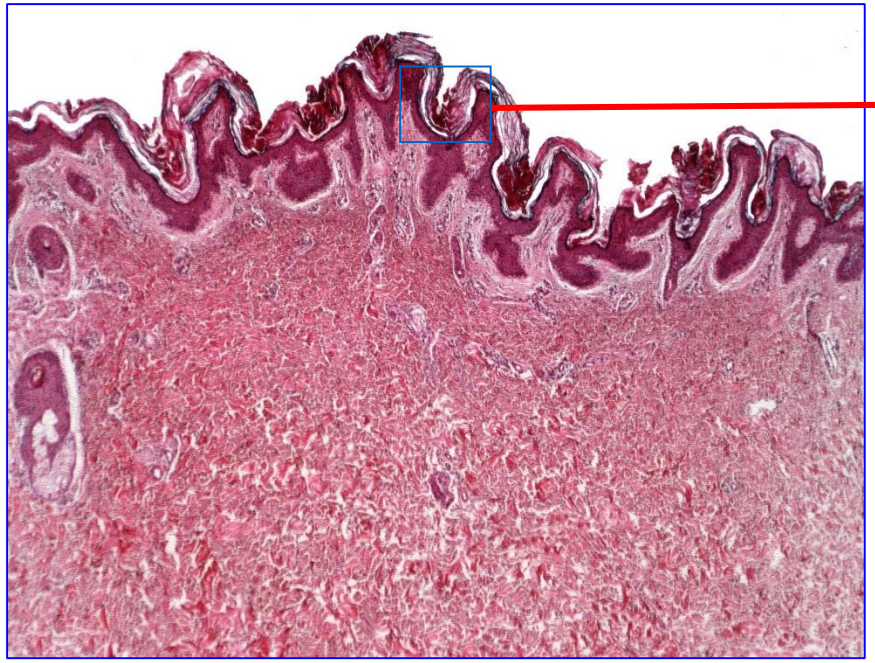


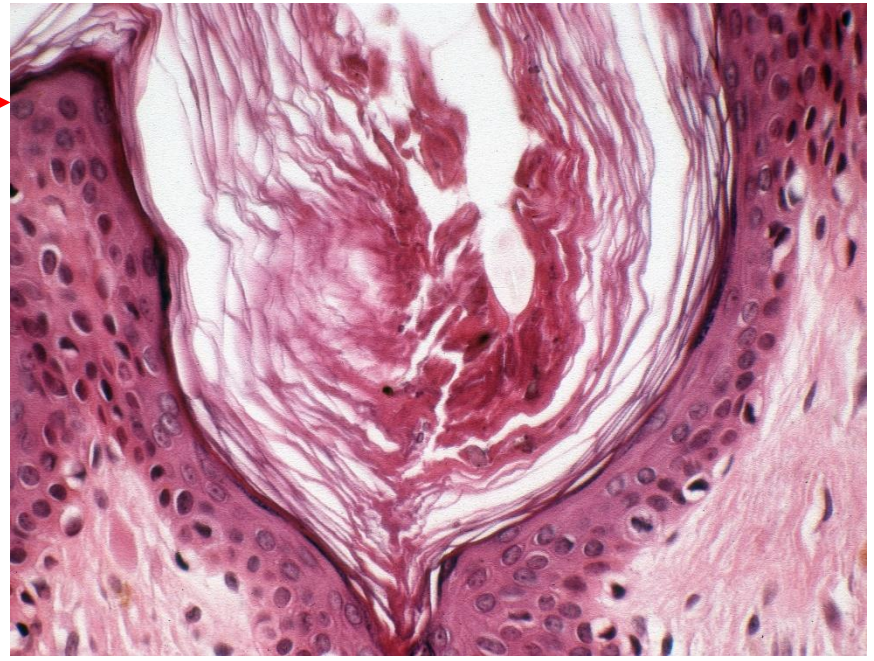




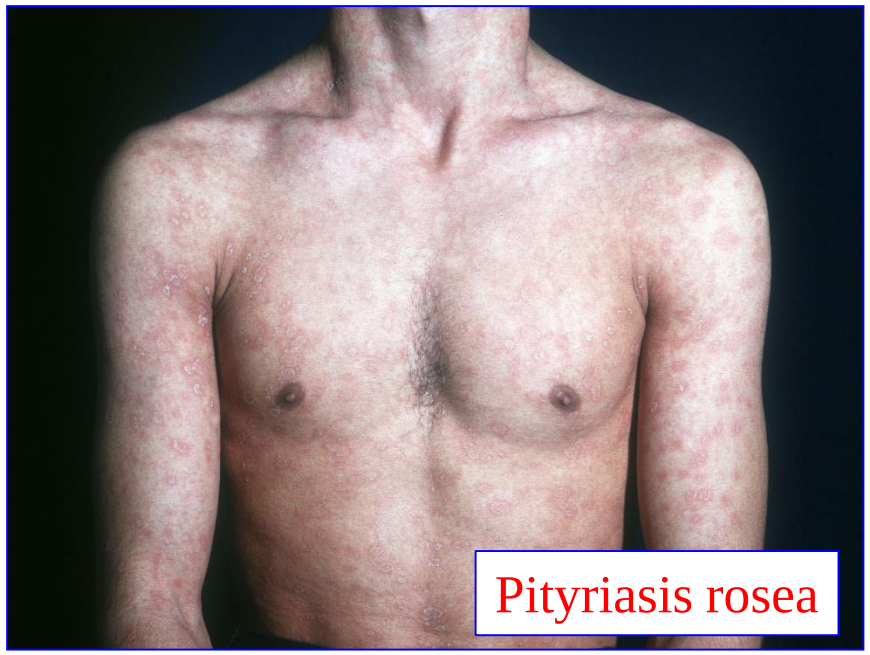
For example, histopathologic changes indistinguishable from those of lichen planus may be seen in an inflamed seborrheic keratosis, also known as lichen planus-like keratosis, or LPLK.

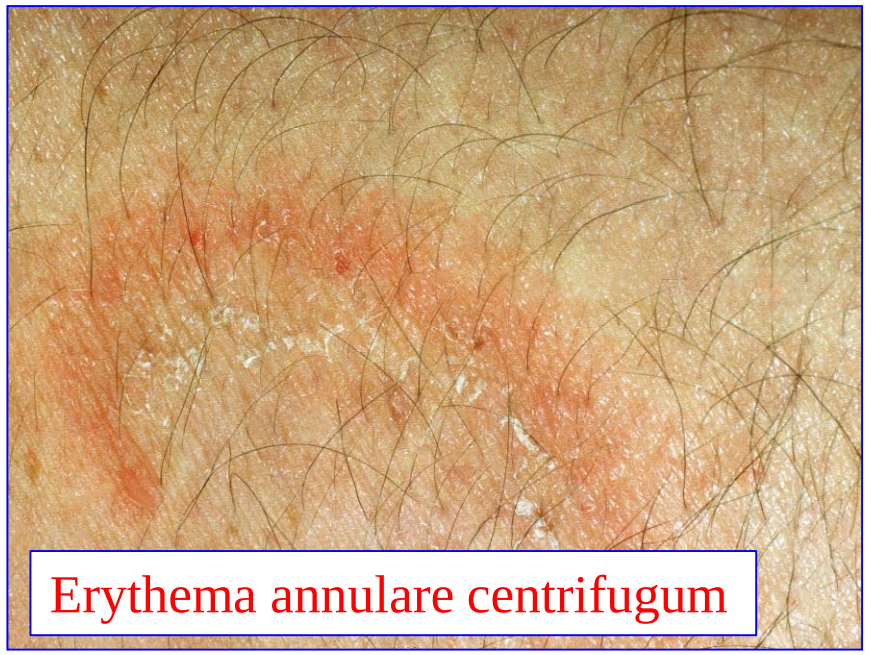




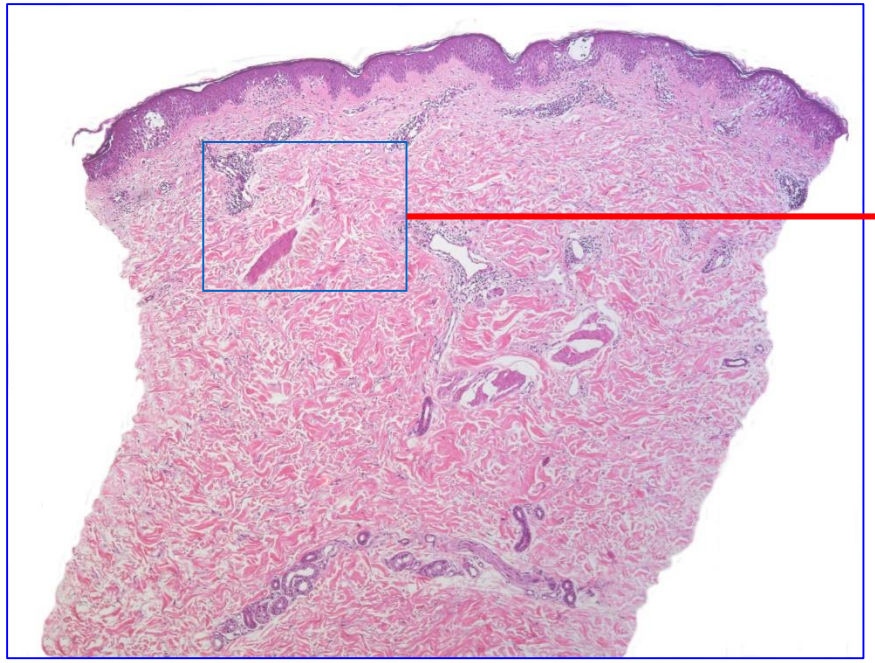


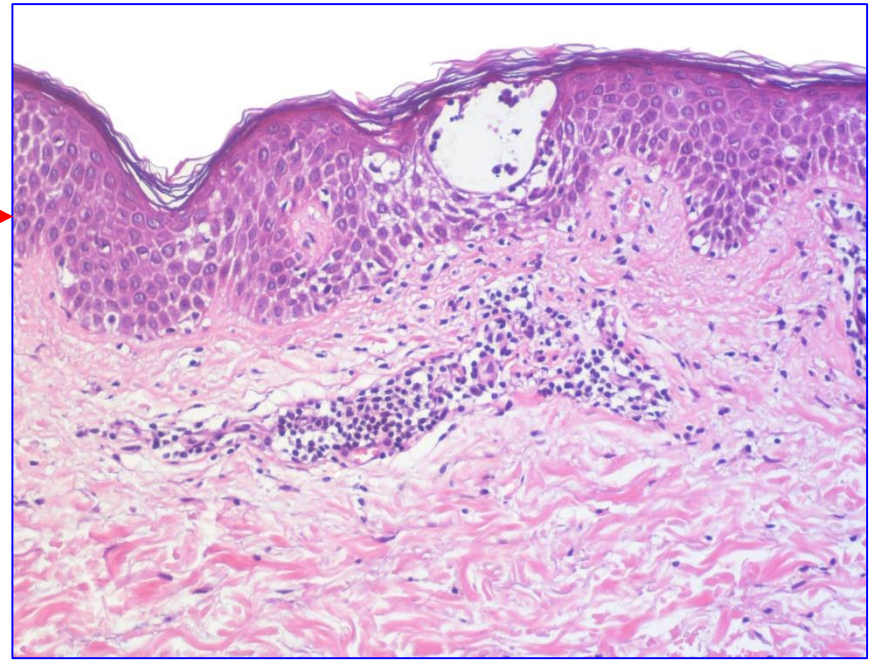
There are other histopathologic look-alikes that can be distinguished with ease clinically, for example acanthosis nigricans and papillomatosis confluens et reticularis,

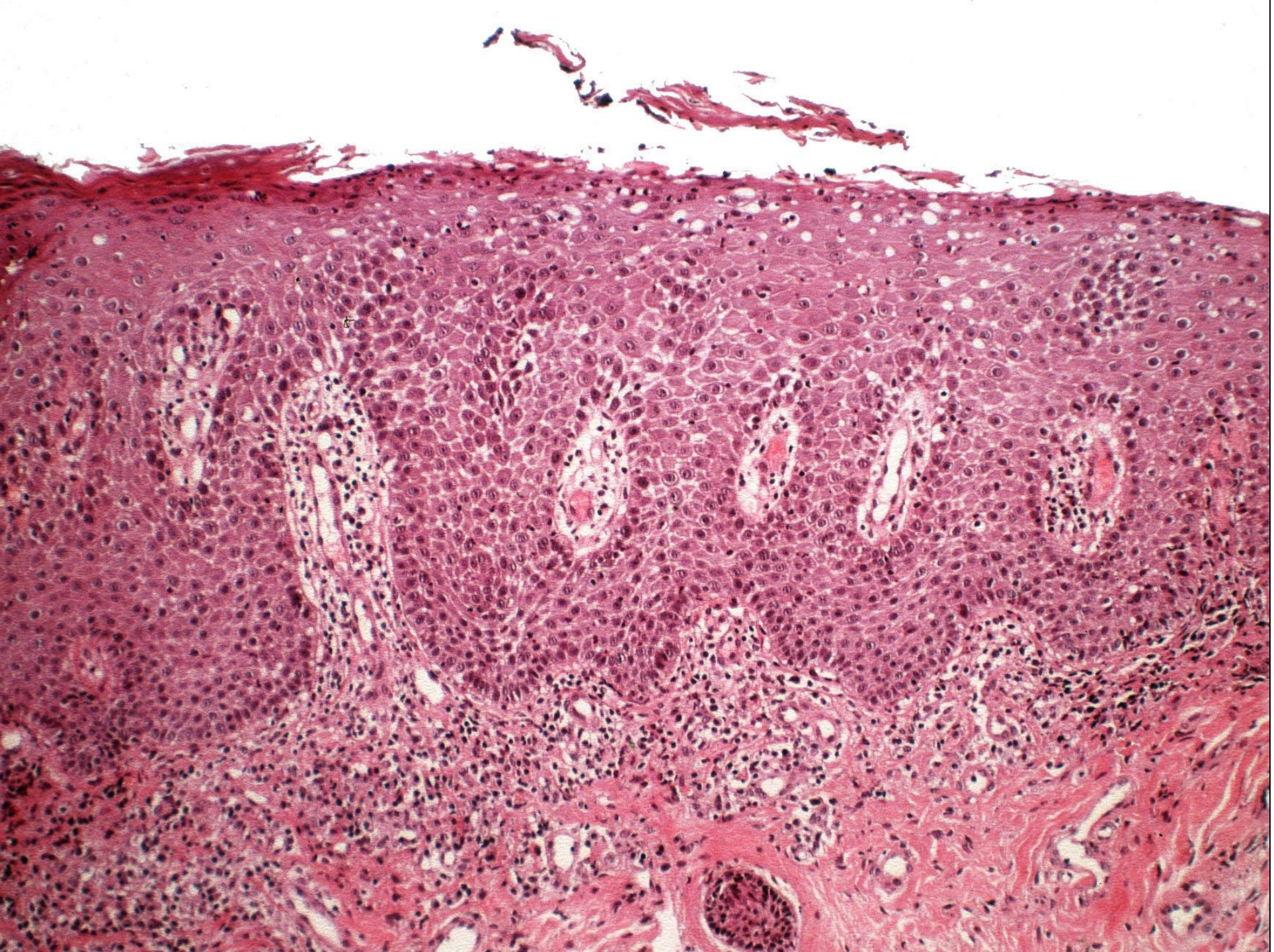




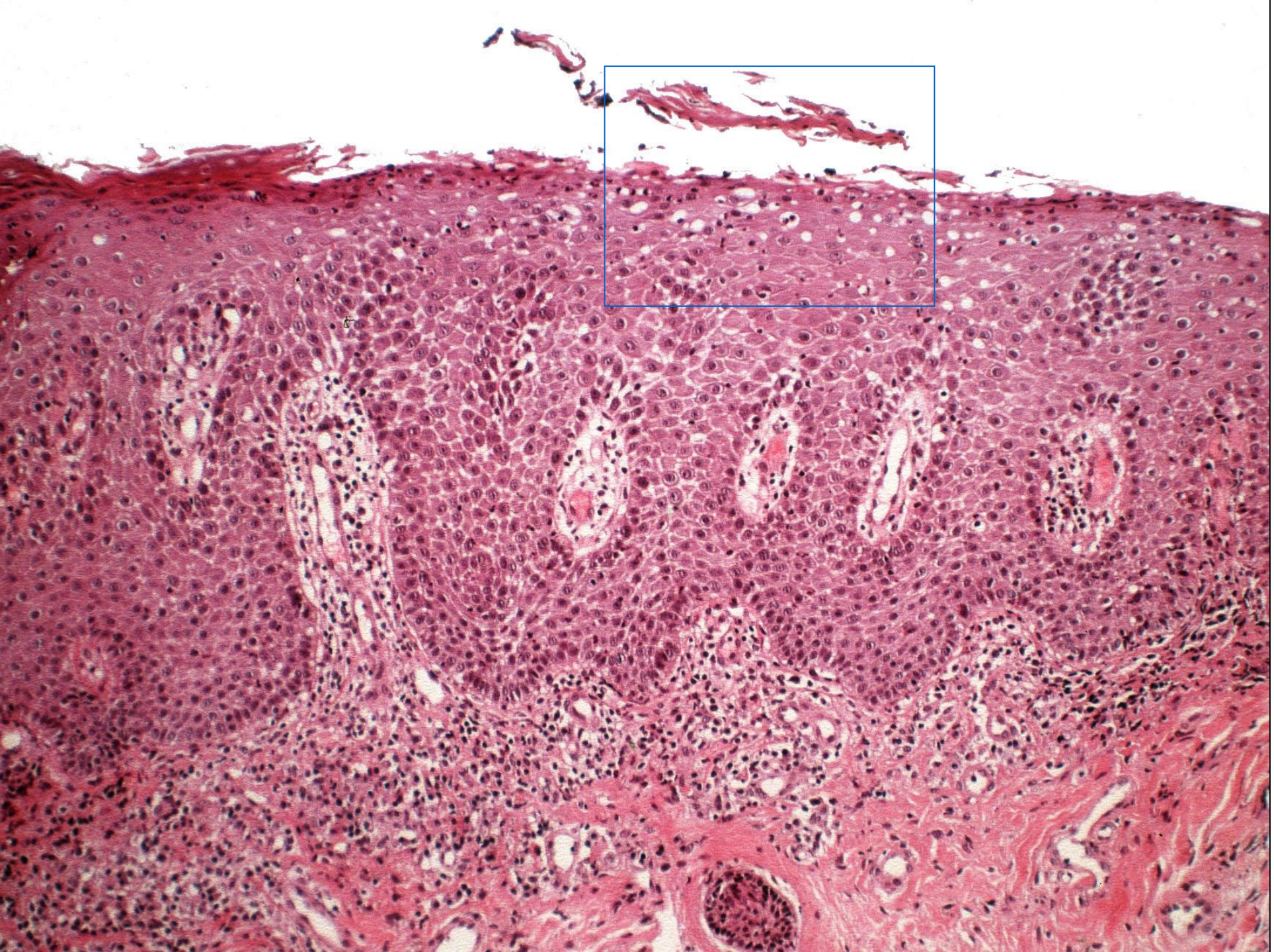
or pityriasis rosea and erythema anulare centrifugum. For a correct interpretation of histopathologic findings, the clinical diagnosis is essential, even if it is wrong. For example, if a specimen comes in under the suspicion of erythema anulare centrifugum



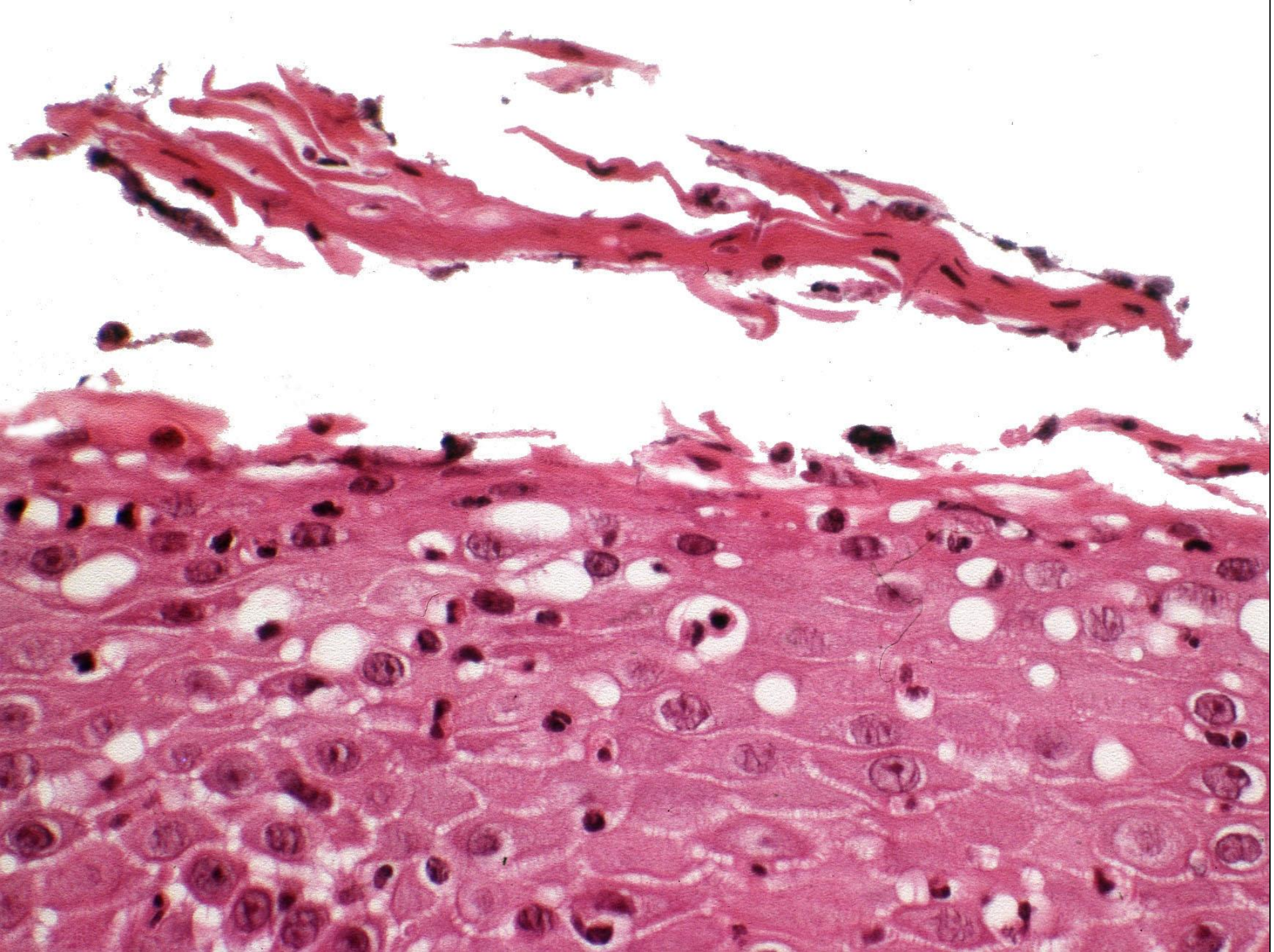




and shows a psoriasiform dermatitis, that constellation raises the suspicion of tinea which also gives rise to annular lesions,

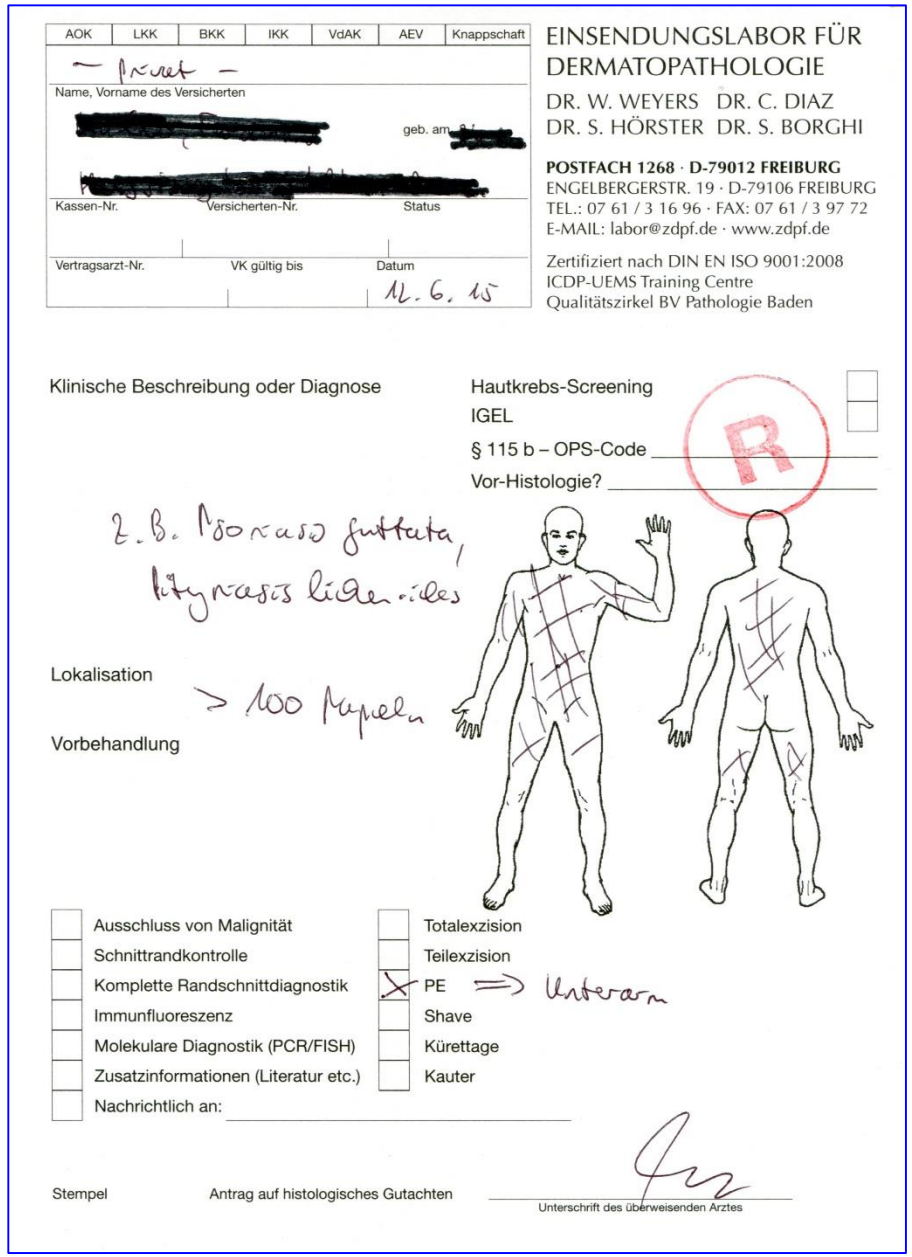


and it may prompt the histopathologist to search for hyphae;



here they are!

What are the most essential pieces of clinical information?



AOK | LKK | BKK | IKK | VdAK | AEV | Knappschaft

– privat –

Name, Vorname des Versicherten

[redacted] geb. am [redacted]

[redacted]

Kassen-Nr. Versicherten-Nr. Status

Vertragsarzt-Nr. VK gültig bis Datum 12.6.15

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Klinische Beschreibung oder Diagnose

z.B. Psoriasis guttata, Lichen ruber planus

Hautkrebs-Screening ☐
IGEL ☐
§ 115 b – OPS-Code
Vor-Histologie?

R

Lokalisation > 100 Papeln

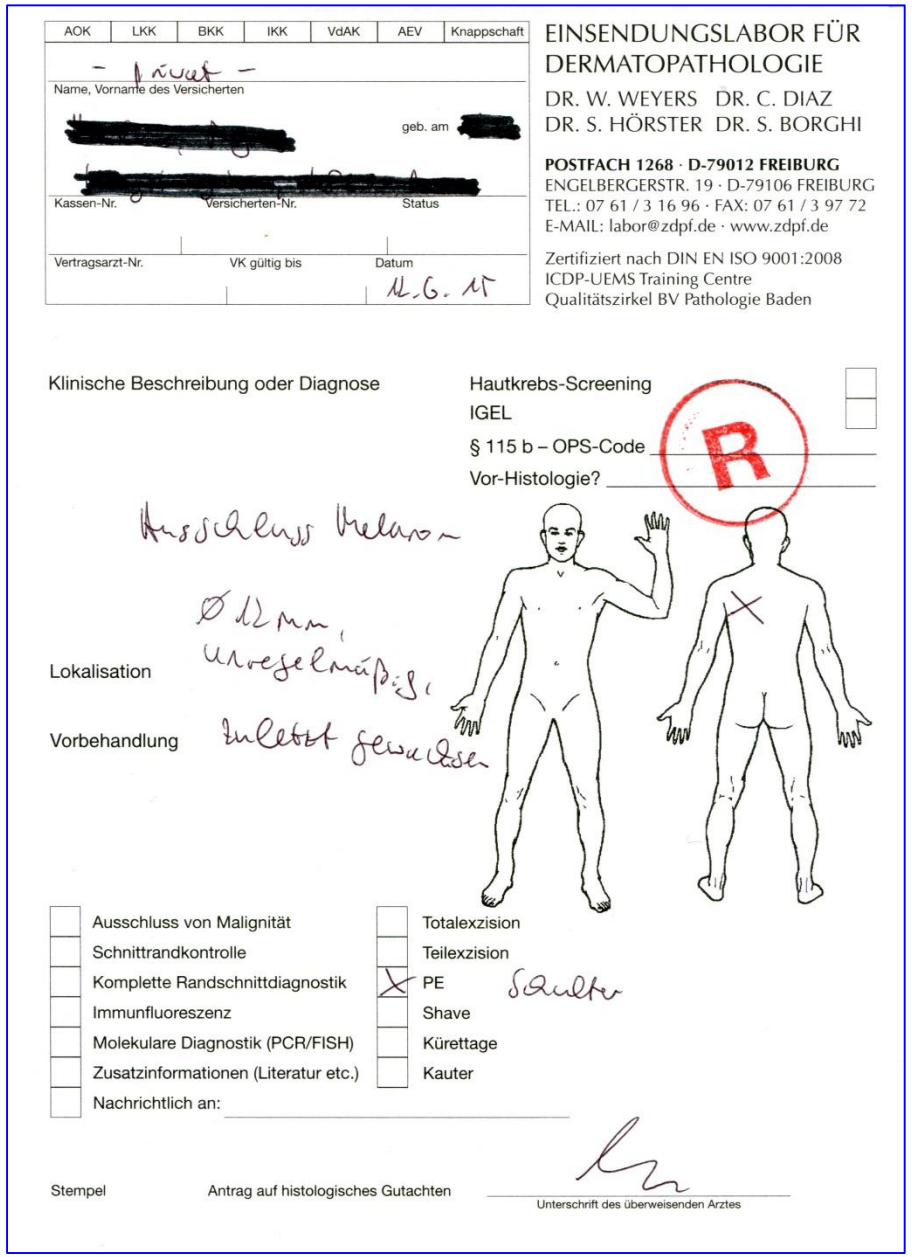
Vorbehandlung

☐ Ausschluss von Malignität
☐ Schnittrandkontrolle
☐ Komplette Randschnittdiagnostik
☐ Immunfluoreszenz
☐ Molekulare Diagnostik (PCR/FISH)
☐ Zusatzinformationen (Literatur etc.)
☐ Nachrichtlich an:

☐ Totalexzision
☐ Teilexzision
☒ PE ⇒ Unterarm
☐ Shave
☐ Kürettage
☐ Kauter

Stempel Antrag auf histologisches Gutachten

Unterschrift des überweisenden Arztes



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Name, Vorname des Versicherten

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[redacted]

Kassen-Nr. Versicherten-Nr. Status

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Klinische Beschreibung oder Diagnose

Ausschluss Melanom

Hautkrebs-Screening ☐
IGEL ☐
§ 115 b – OPS-Code
Vor-Histologie?

R

Lokalisation Ø 12 mm, unregelmäßig

Vorbehandlung zuletzt gerasiert

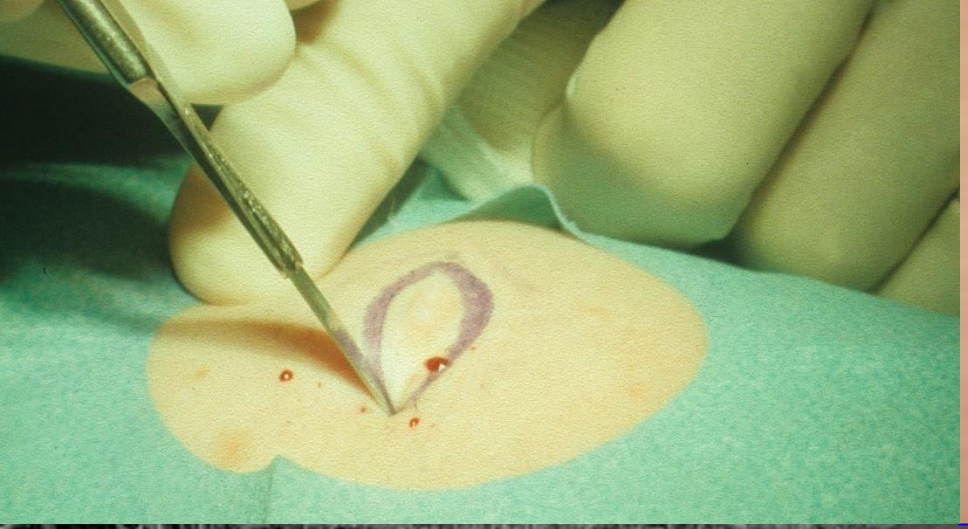
☐ Ausschluss von Malignität
☐ Schnittrandkontrolle
☐ Komplette Randschnittdiagnostik
☐ Immunfluoreszenz
☐ Molekulare Diagnostik (PCR/FISH)
☐ Zusatzinformationen (Literatur etc.)
☐ Nachrichtlich an:

☐ Totalexzision
☐ Teilexzision
☒ PE Schulter
☐ Shave
☐ Kürettage
☐ Kauter

Stempel Antrag auf histologisches Gutachten

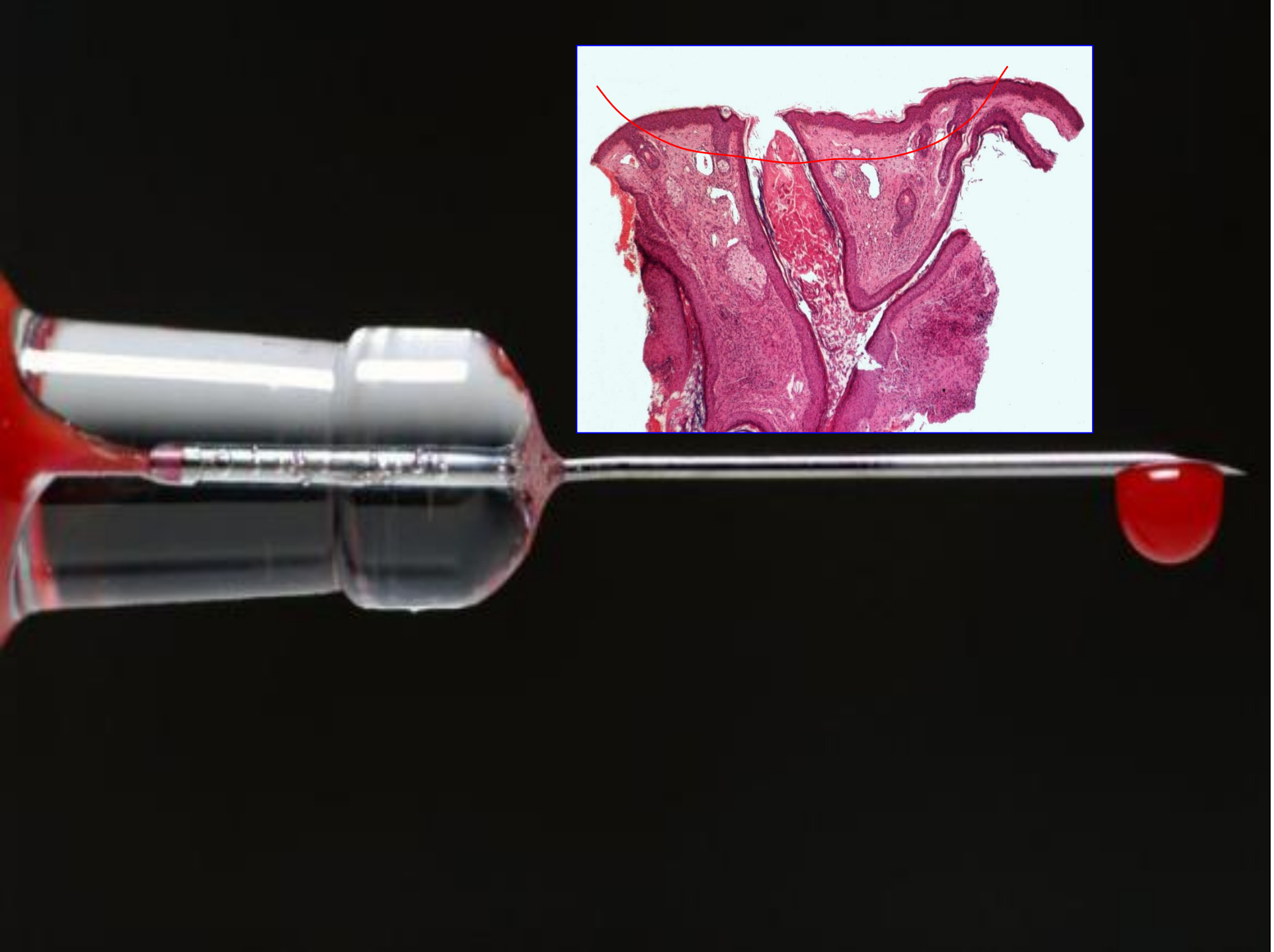
Unterschrift des überweisenden Arztes

In regard to inflammatory dermatosis, the single most important one is the number of lesions. It makes a big difference whether a patient has one, ten, or more than a hundred lesions. The involved anatomic sites should also be conveyed, in addition to the site of biopsy, and at least one diagnosis should be proposed in order to enable the histopathologist to get a sense for the clinical picture. In regard to neoplasms not excised completely, the size of the lesion must be told, possibly together with a brief note on the clinical history. Those few words can be written down in seconds, and they could improve the accuracy of diagnosis substantially. Nonetheless, request forms such as these have become an exception.

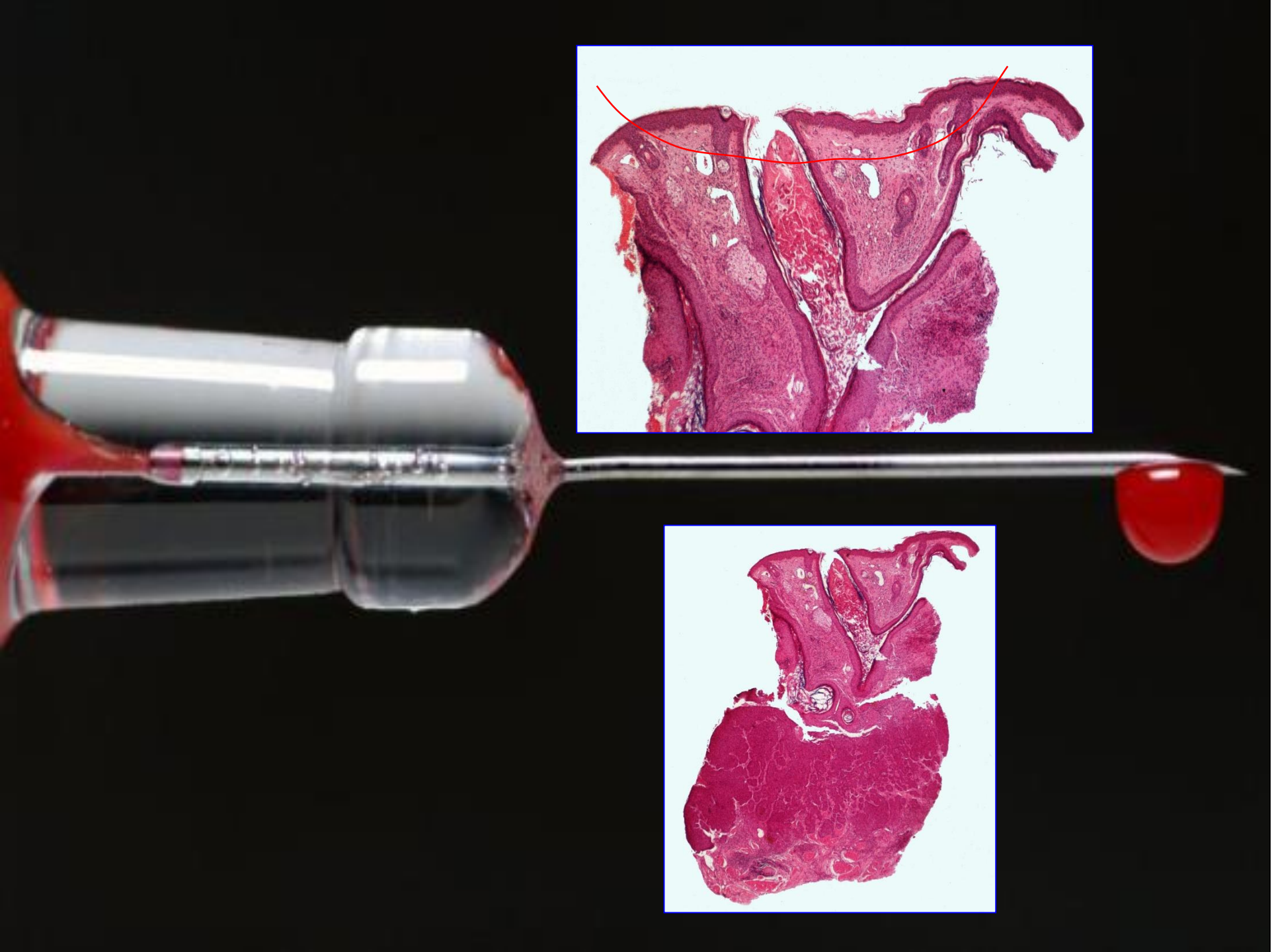


What is the reason? In my view, the dramatically decreasing care in the execution of biopsies is closely connected to changes in the technique for biopsy of melanocytic neoplasms that have affected, and infected, the whole realm of dermatology. Biopsy has changed from a selective, carefully planned surgical procedure to mass processing

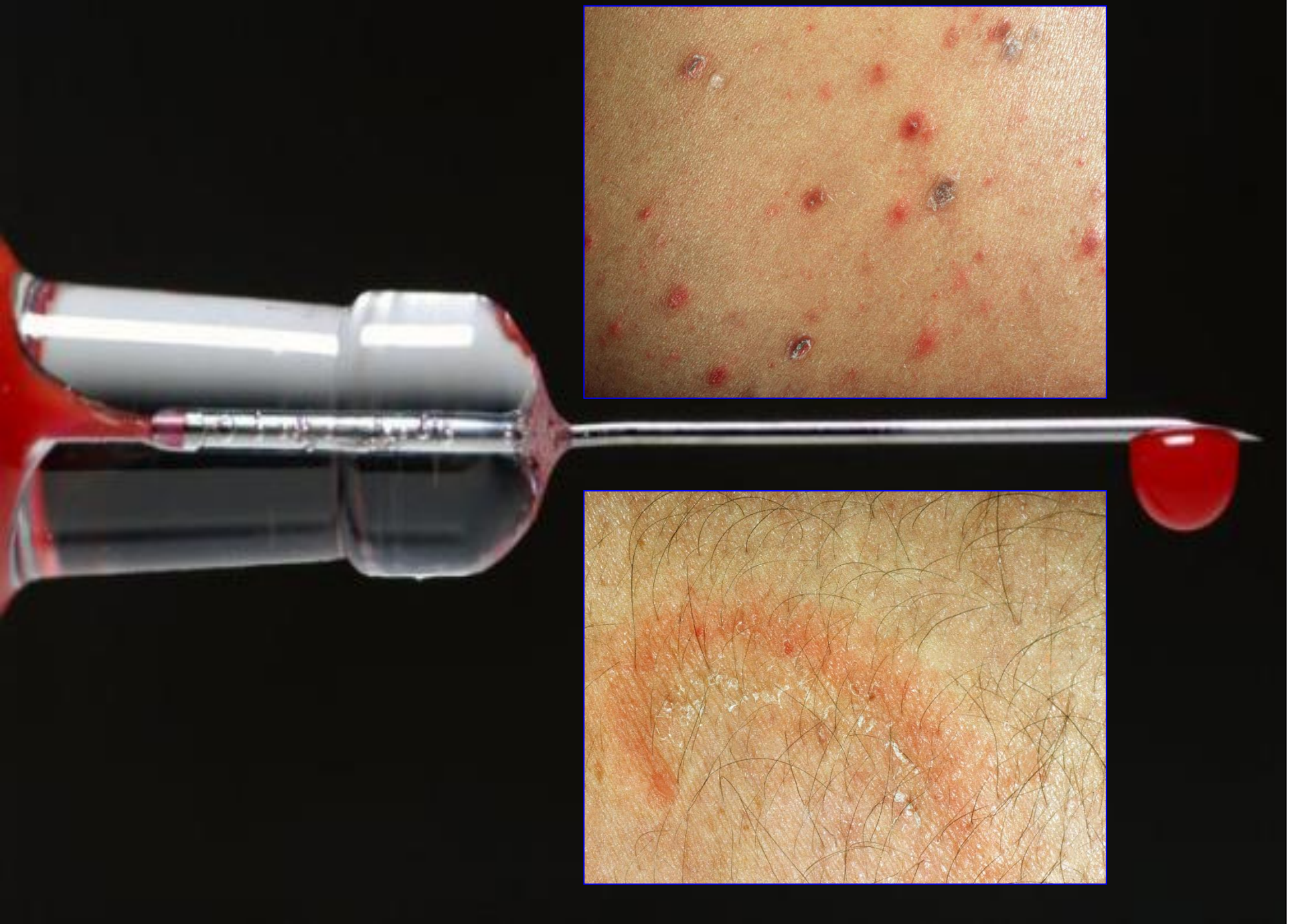
carried out with no more deliberation than a blood draw.
The problem starts with the choice of the biopsy technique.



If biopsies are performed indiscriminately by shave technique, regardless of inspection or palpation of the lesion, the relevant process may not be sampled, as in this example of granulomatous folliculitis,

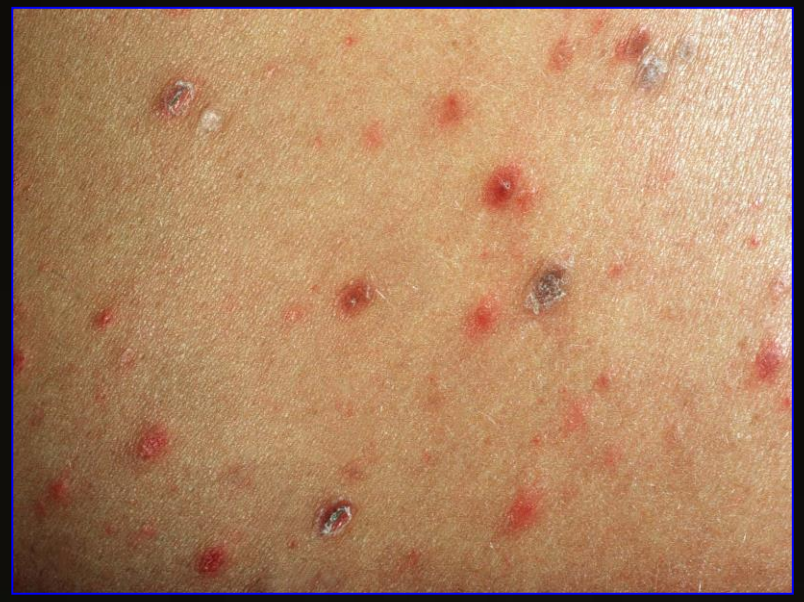


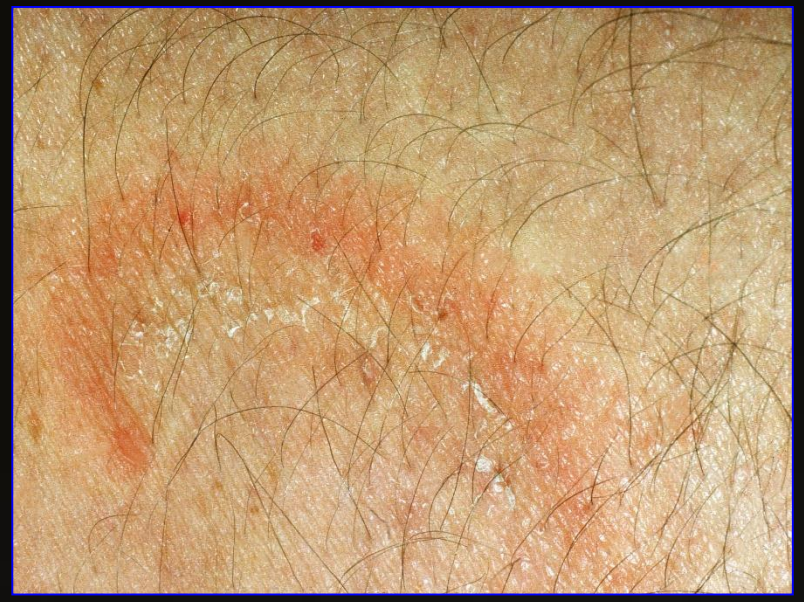
not to mention the basal-cell carcinoma beneath it.



It continues with the choice of the biopsy site. If the site is not selected thoughtfully, results will often be meaningless.

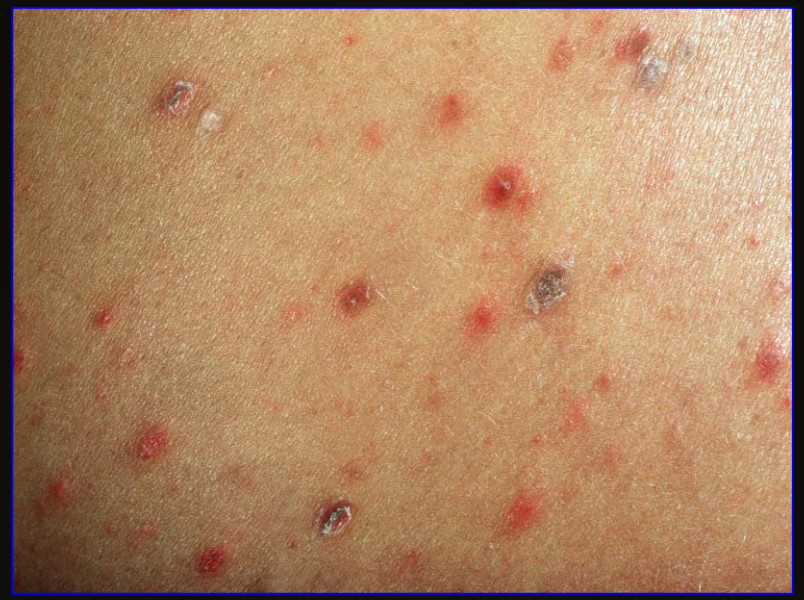
- fully developed

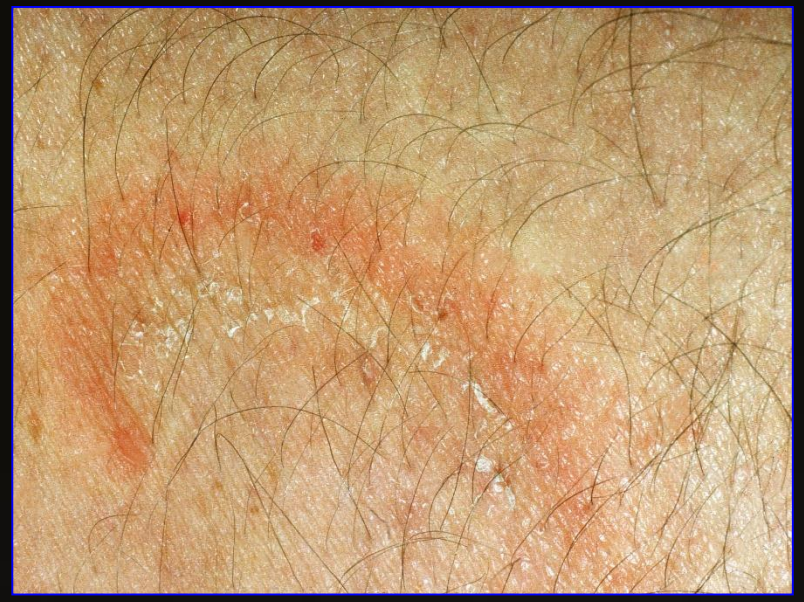




In inflammatory dermatoses, lesions should be sampled that are fully developed

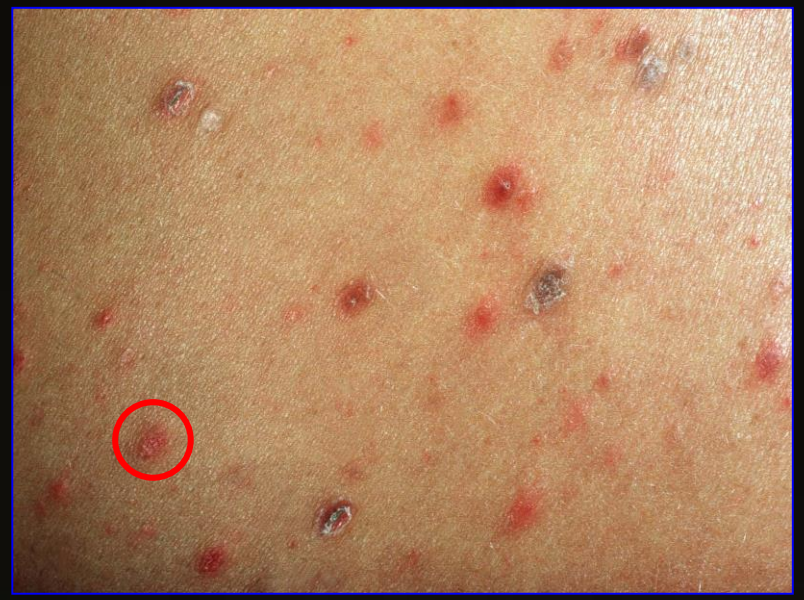
- fully developed
- not altered secondarily

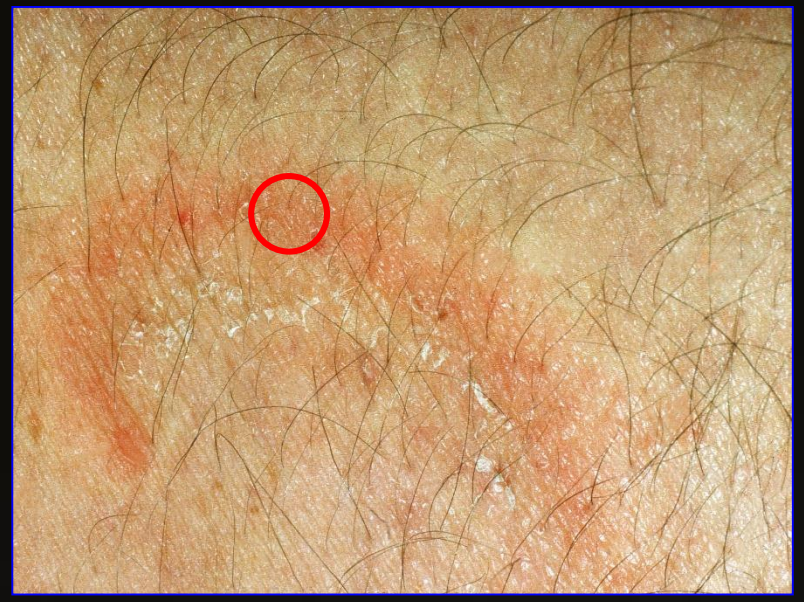




and not altered secondarily,

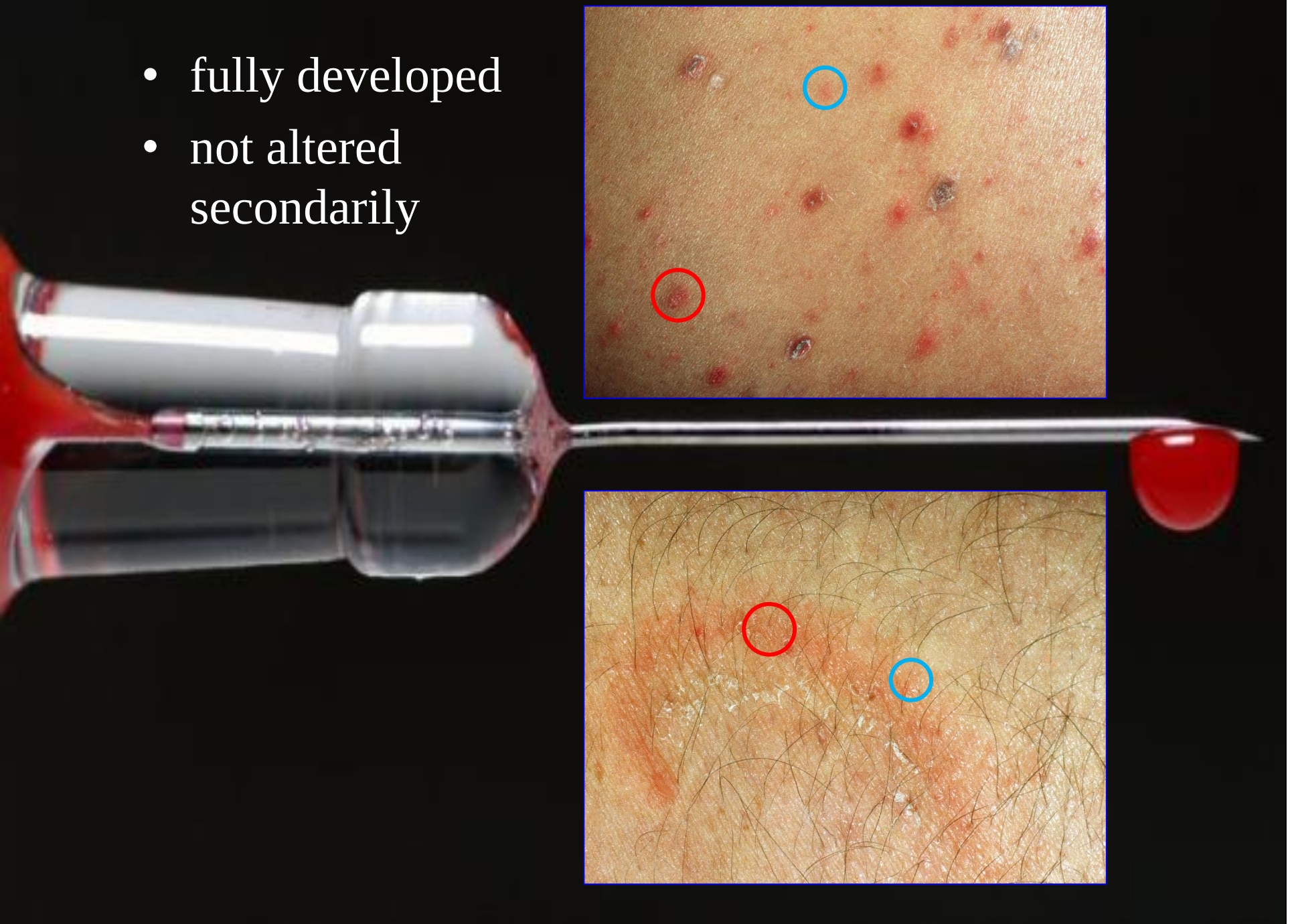
- fully developed
- not altered secondarily





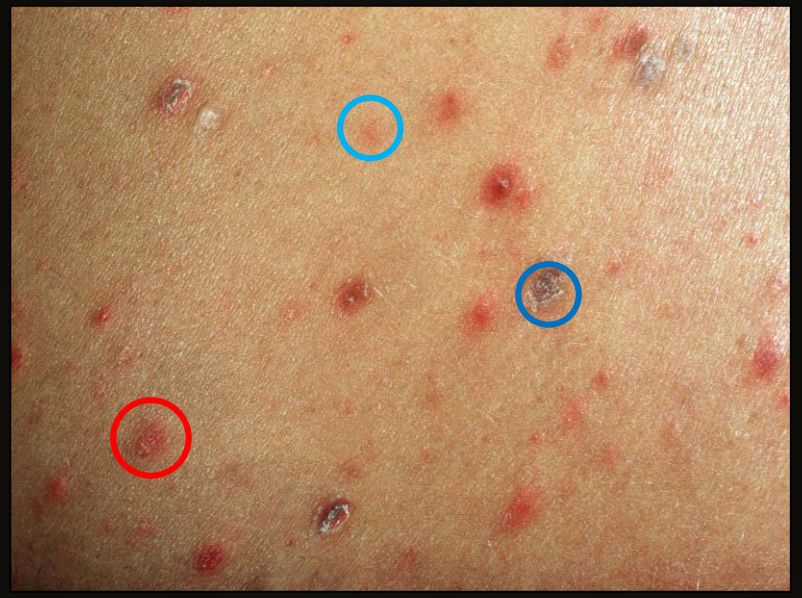
such as this papule of pityriasis lichenoides, or the inflamed rim of erythema annulare centrifugum.

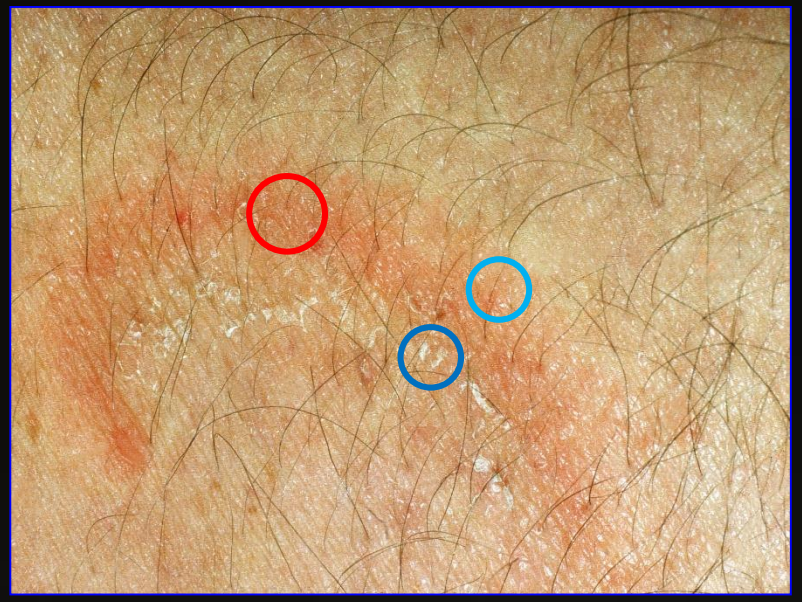
- fully developed
- not altered secondarily



With rare exceptions, one should neither select the earliest

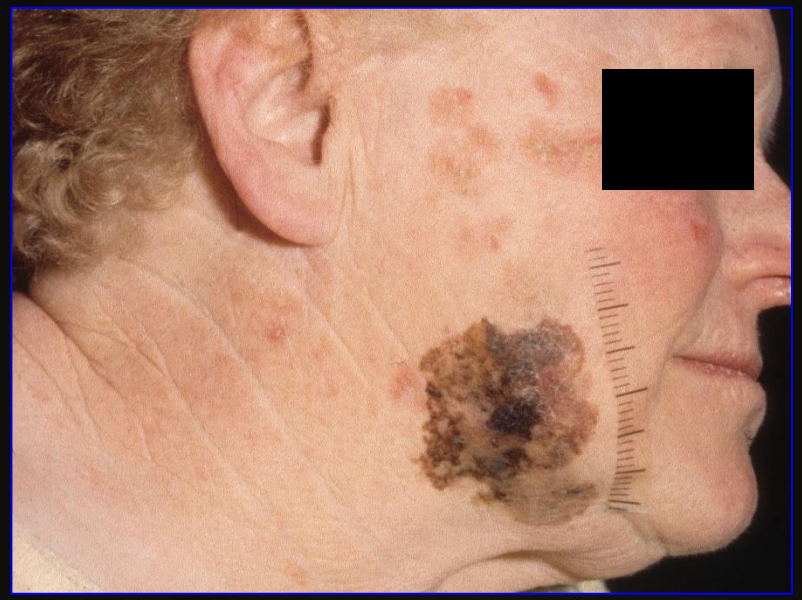
- fully developed
- not altered secondarily





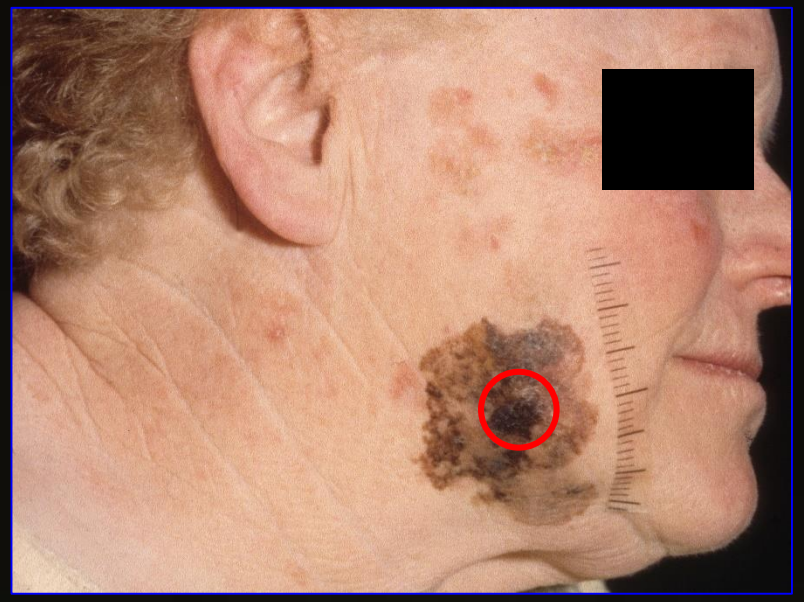
nor the latest stages, and one should exclude lesions excoriated or crusted.

- fully developed
- not altered secondarily



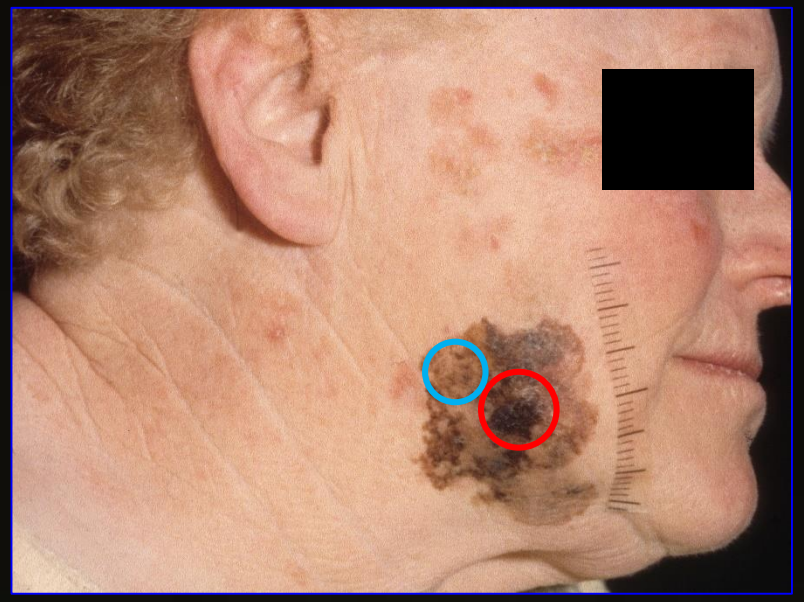
The same applies to neoplasms. When performing an incisional biopsy,

- fully developed
- not altered secondarily



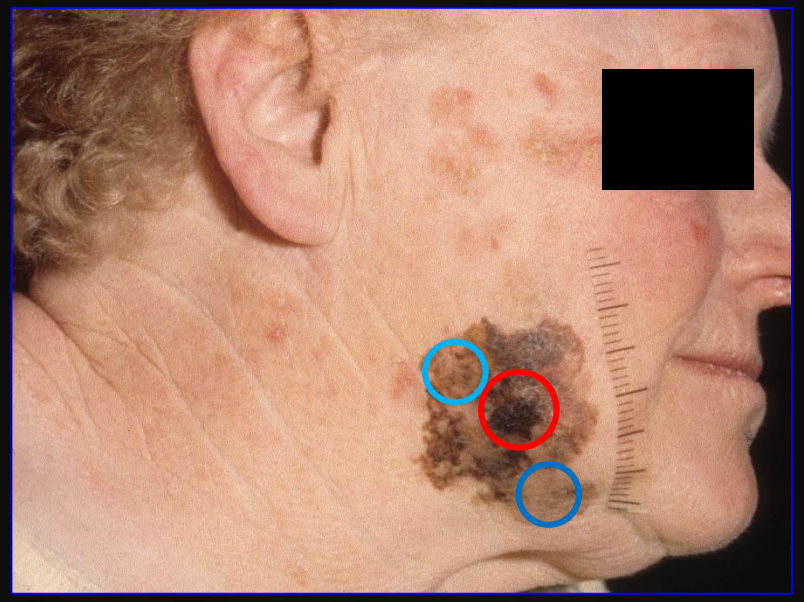
the most advanced portion of the lesion should be sampled,

- fully developed
- not altered secondarily



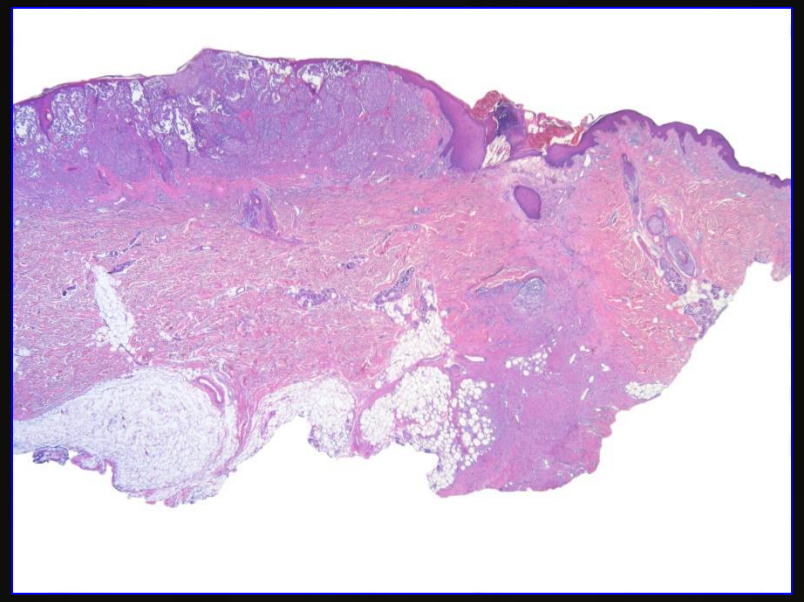
rather than the early macular stage in the periphery

- fully developed
- not altered secondarily



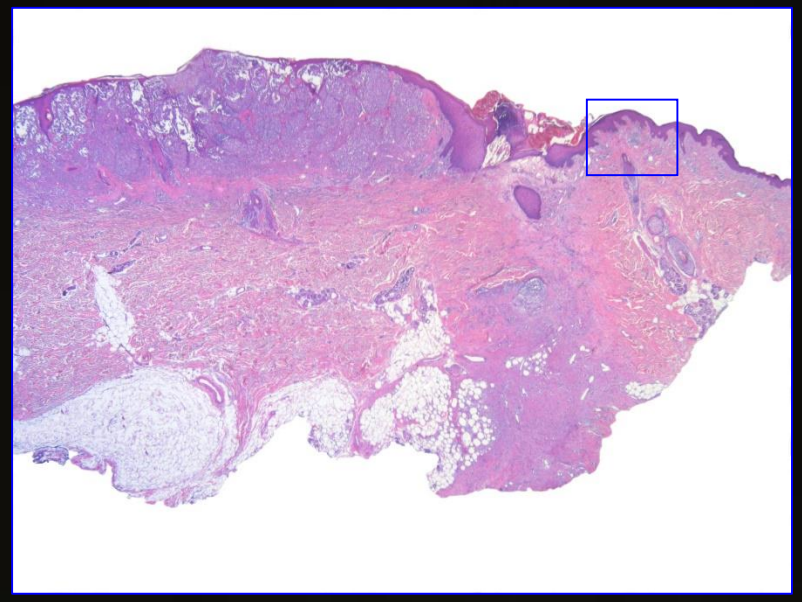
or a zone of regression. Those rules may sound self-evident, but they are frequently not observed.

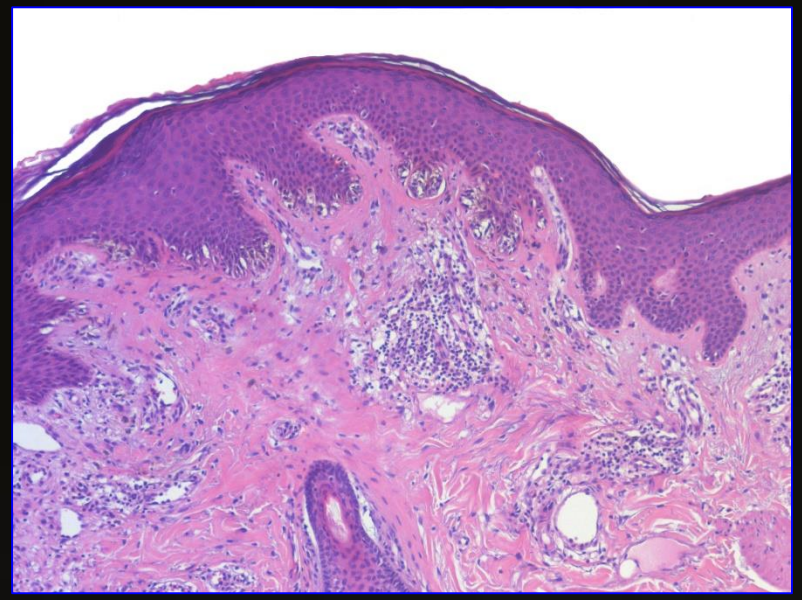
- fully developed
- not altered secondarily



In this advanced melanoma, the biopsy was taken at the edge, and in the periphery of the scar of this re-excision specimen,

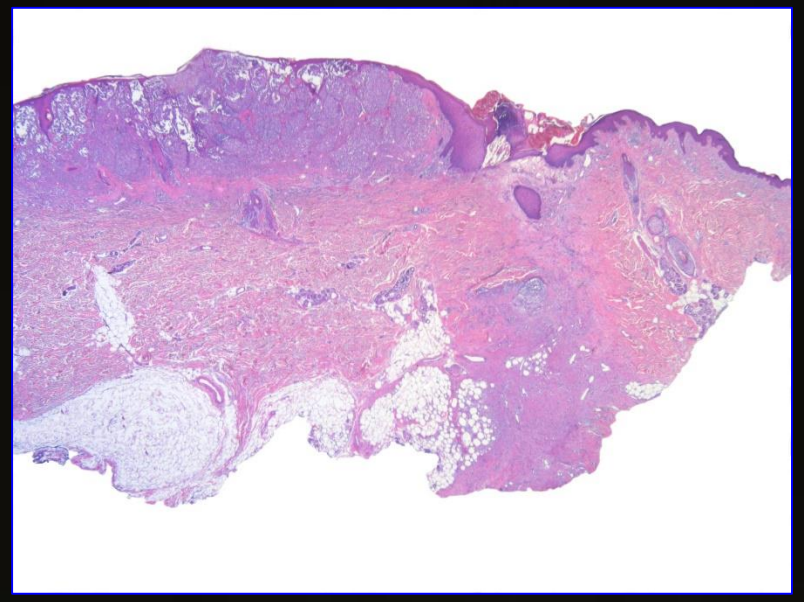
- fully developed
- not altered secondarily

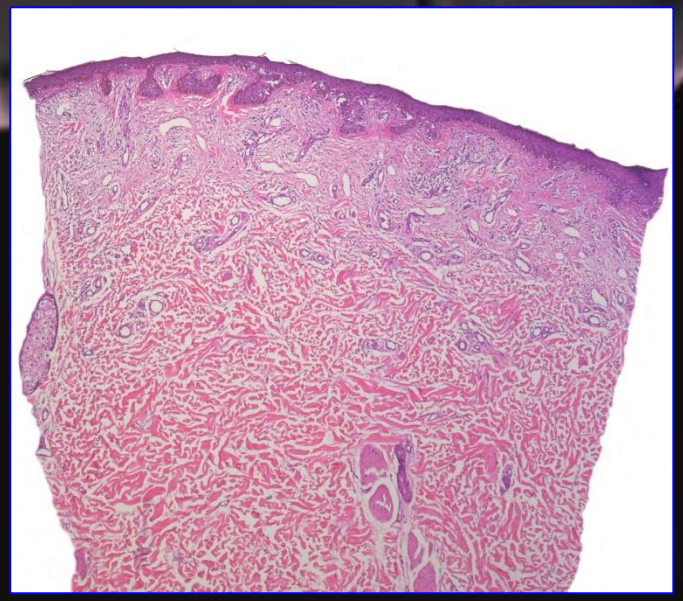


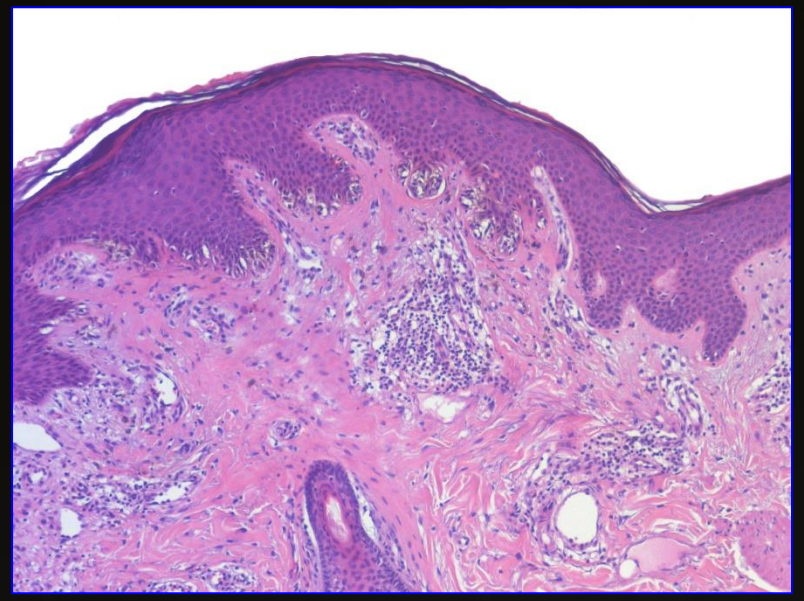


one sees only tiny nests of melanocytes confined to the dermo-epidermal junction. In the absence of other findings, those nests could be misinterpreted easily as a junctional nevus.

- fully developed
- not altered secondarily







In the previous biopsy, changes were hardly more telling, and it was lucky circumstance that a re-exicsion had been recommended. Such biopsies may be deadly. Biopsy is much more than just a blood draw, and the declining quality is a dramatic problem.

The Vanishing Biopsy: The Trend Toward Smaller Specimens

Emmy M. Fernandez, MD; Thomas Helm, MD; Michael Ioffreda, MD; Klaus F. Helm, MD

Dermatopathologists have noted an increased number of smaller biopsy specimens. Our objective was to determine whether dermatologists are changing their choice of biopsy technique and the size of biopsy specimens. We conducted a retrospective study of 500 biopsies performed by dermatologists for the purpose of diagnosis in 1988, 1993, 1998, and 2003. Our study results indicate that dermatologists are performing fewer punch biopsies and more shave biopsies. What's more, there has been a decrease in the size of shave biopsy specimens. We believe that the decreased number of punch biopsies being performed combined with the decreased size of shave biopsy specimens may affect patient care.

Cutis. 2005;76:335-339.

A skin biopsy may be performed for either therapeutic reasons or to aid in the diagnosis of cutaneous diseases. Edward Keyes[1] adapted the punch biopsy technique in 1887. During the choice of biopsy technique and the size of the resultant biopsy specimen.

Materials and Methods

A retrospective review of pathology reports was conducted at the Pennsylvania State Milton S. Hershey Medical Center, with approval by the institutional review board. Using the CoPathPlus® Anatomic Pathology database and archived pathology data, we analyzed 500 pathology reports of randomly selected skin biopsies performed by academic and private practice dermatologists in 1988, 1993, 1998, and 2003. Both punch and shave biopsy specimens were included in the study; excisional specimens were excluded, as were punch and shave biopsies that were performed for therapeutic rather than diagnostic intent (eg, biopsies performed to remove indubitable seborrheic keratoses, typical nevi, or acrochordons).

A total of 500 pathology reports—125 consecutive biopsies from each of the 4 study years—were

This problem is real. Studies have demonstrated clearly the *"trend toward smaller specimens."* Over the years, the number of specimens has risen, and their size has shrunk. Worries that *"the decreased size of shave biopsy specimens may affect patient care"* are all too justified.

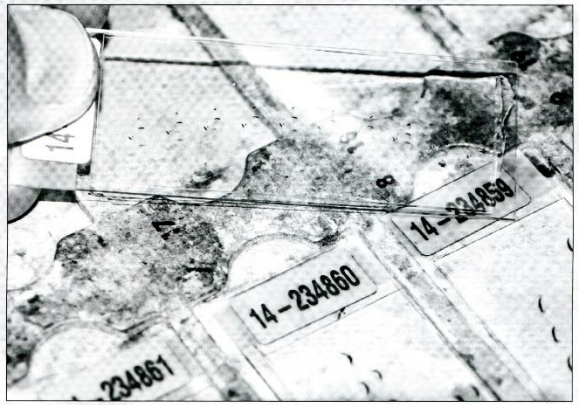
Dermatologie – einmal anders

Schluss damit! Zur Miniaturisierung der Hautbiopsie

Schluss damit! Wenn es so einfach wäre: eine Entwicklung erkennen, sie prüfen und bewerten und – wenn negative Aspekte die positiven überwiegen – sie beenden. Aber so einfach ist es nicht. Oft vollzieht sich eine Entwicklung im Dunkeln – zuweilen auch im Dunkel des Scheinwerferlichtes der Öffentlichkeit – und wird in ihrer ganzen Bedeutung erst erfasst, wenn ihre negativen Konsequenzen eingetreten sind. Oft wird eine Entwicklung wohl bemerkt, aber nicht geprüft, weil man Angst vor dem Ergebnis hat, das dazu führen könnte, dass man mit lieb gewordenen Gewohnheiten brechen muss. Selbst wenn geprüft wird, fällt die Bewertung oftmals schwer, weil sich positive und negative Aspekte einer Entwicklung mischen und vielleicht schon kleine Modifikationen für das Überwiegen der ersteren ausreichen könnten. Und selbst wenn die Entwicklung bemerkt und nach sorgfältiger Prüfung als negativ bewertet wird, ist sie oft schwer zu beenden oder auch nur aufzuhalten, denn was der Gesamtheit schadet, kann dem Einzelnen nützlich sein, und es bedarf großer Anstrengungen, um in jahre- oder jahrzehntelanger Überzeugungsarbeit eine Änderung des Verhaltens herbeizuführen.

Beispiele für solche Entwicklungen gibt es zuhauf: vom internationalen Finanzverkehr über die Atomkraft bis hin zur globalen Erwärmung. Ein Beispiel aus der Medizin ist die Miniaturisierung der Biopsie. Seit Jahren werden Hautbiopsien immer kleiner: immer mehr Ärzte gehen dazu über, anstelle von Spindelbiopsien mit dem Skalpell kleine Shave- oder Stanz-Biopsien vorzunehmen, anstelle von 4 mm-Stanzen 2 mm-Stanzen zu verwenden und anstelle tiefer Shaves oberflächlich abgetragene Gewebestücke einzuschicken, in denen nicht einmal mehr die gesamte Breite der Epidermis zur Darstellung kommt.

Die Konsequenzen dieser Entwicklung für die



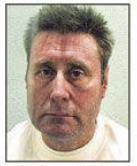
▲ *Realität der Hautbiopsie im Jahre 2014: Winziges Shave-Biopsat unter der klinischen Diagnose eines melanozytären Naevus. Eine zuverlässige Diagnose ist an einem solchen Biopsat nicht möglich. Die Biopsate auf dem Tablett sind nur unwesentlich größer und oft ebenfalls nicht sicher beurteilbar.*

Diagnosestellung sind verheerend: Analyse wird durch Intuition, Sicherheit durch Vermutung, Histopathologie durch Zytologie ersetzt. Natürlich hat auch die Zytologie ihren Wert. Nicht ohne Grund wird sie für manche Fragestellungen routinemäßig als Screening-Methode eingesetzt. Anhand grober Kernatypien kann es gelingen, Karzinome selbst in Abstrichpräparaten nachzuweisen. Die Sensitivität ist allerdings gering, und für die Fragestellungen der Dermatopathologie spielt die rein zytologische Diagnostik keine Rolle, weder für die spezifische Diagnose entzündlicher Dermatosen, die nur in Ausnahmefällen zytologisch erfolgen kann, noch für die Diagnose der Frühstadien maligner Neoplasien, in denen keine oder nur geringe Kernatypien vorliegen. Für diese Fragestellungen muss man das Verhalten der Zellen im Gewebeverband untersuchen, das in ausreichend großen histopathologischen Schnittpräparaten als Schnappschussaufnahme festgehalten ist.

Im Prinzip ist dies alles bekannt. In vielen Lehrbüchern ist nachzulesen, dass bei Verdacht auf eine Pannikulitis eine große Spindel- und keine Stanz-Biopsie angezeigt ist, dass Stanz-Biopsien bei entzündlichen Dermatosen Shave-Biopsien vorzuziehen sind und dass man bei Melanomverdacht möglichst eine Exzisions- und keine Inzisionsbiopsie vornehmen sollte. Die Wirklichkeit sieht anders aus. Auch das weiß im Grunde jeder. Die Diskrepanz zwischen Anspruch und Wirklichkeit ist ein offenes Geheimnis, und für die ständige Vergrößerung dieser Schere gilt das nicht minder. Die Miniaturisierung der Hautbiopsie vollzieht sich vor aller Augen – und bleibt dennoch unbemerkt! In der öffentlichen Wahrnehmung spielt sie keine Rolle, ins Bewusstsein der Wortführer der Dermatologie ist sie nicht gedrungen. Da gibt es keinen Kommentar, keinen Warnruf, keine Versuche, den Prozess zu beenden, aufzuhalten, abzuschwächen – ganz so, als gäbe es hier kein Problem, das die Patientenversorgung

The trend has begun in the United States but, meanwhile, the *"miniaturization of skin biopsies"* is a problem in all developed countries. Nonetheless, it is hardly ever addressed in public fora. Why is there no outcry?

THE Sun
50p LESS THAN THE DAILY MIRROR
Saturday, January 27, 2018 FOR A GREATER BRITAIN 70p thesun.co.uk



Still a lag . . Worboys

Victims halt cab rapist's release

By TOM WELLS

BLACK cab rapist John Worboys will stay in jail for at least another fortnight after victims won a last-ditch court order.

The Parole Board ruled the fiend, 60, should be freed. But a judge at London's High Court last

Continued on Page Two

Scandal in Dermatology:

Biopsies Becoming Smaller and Smaller –

Patient Management Jeopardized

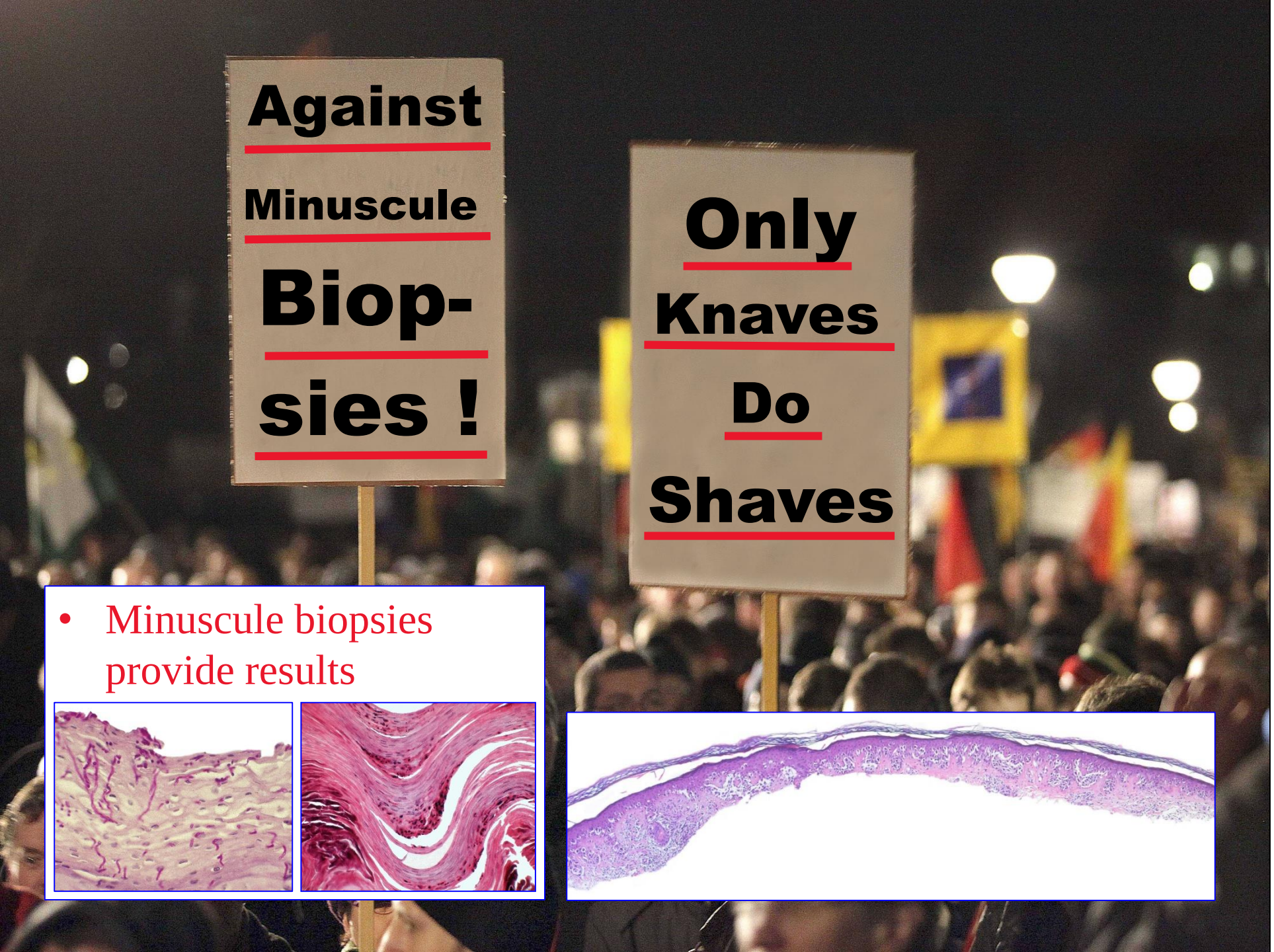
Why no catchlines in major newspapers because of this scandal in dermatology,

why no night-time demonstrations?

There are several explanations.

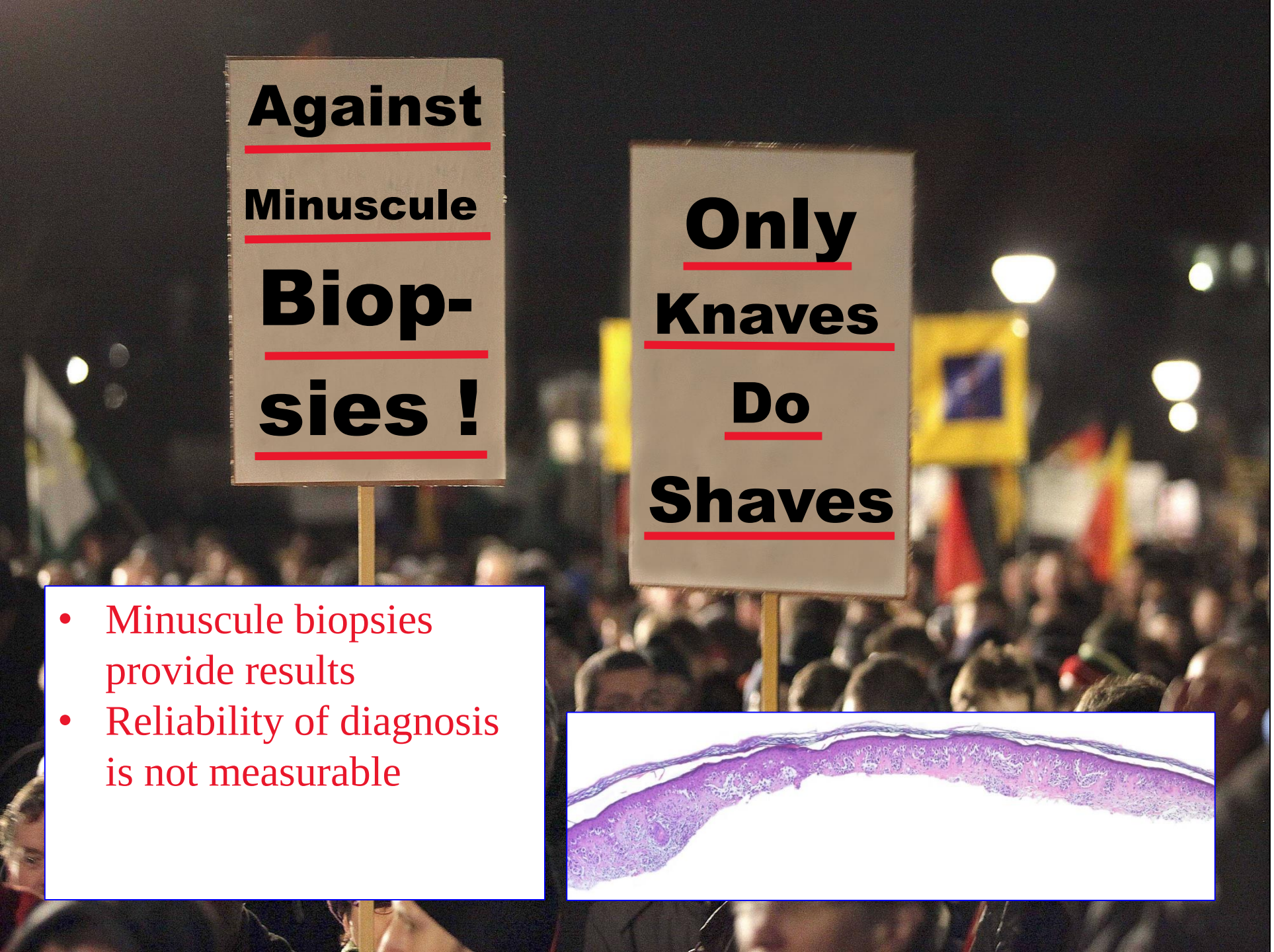
- Minuscule biopsies provide results

First, even minuscule biopsies provide results. Sometimes, the cornified layer is enough for a specific diagnosis, if it shows fungi in the case of tinea or staggered mounts of parakeratosis with neutrophils at their summits in psoriasis.



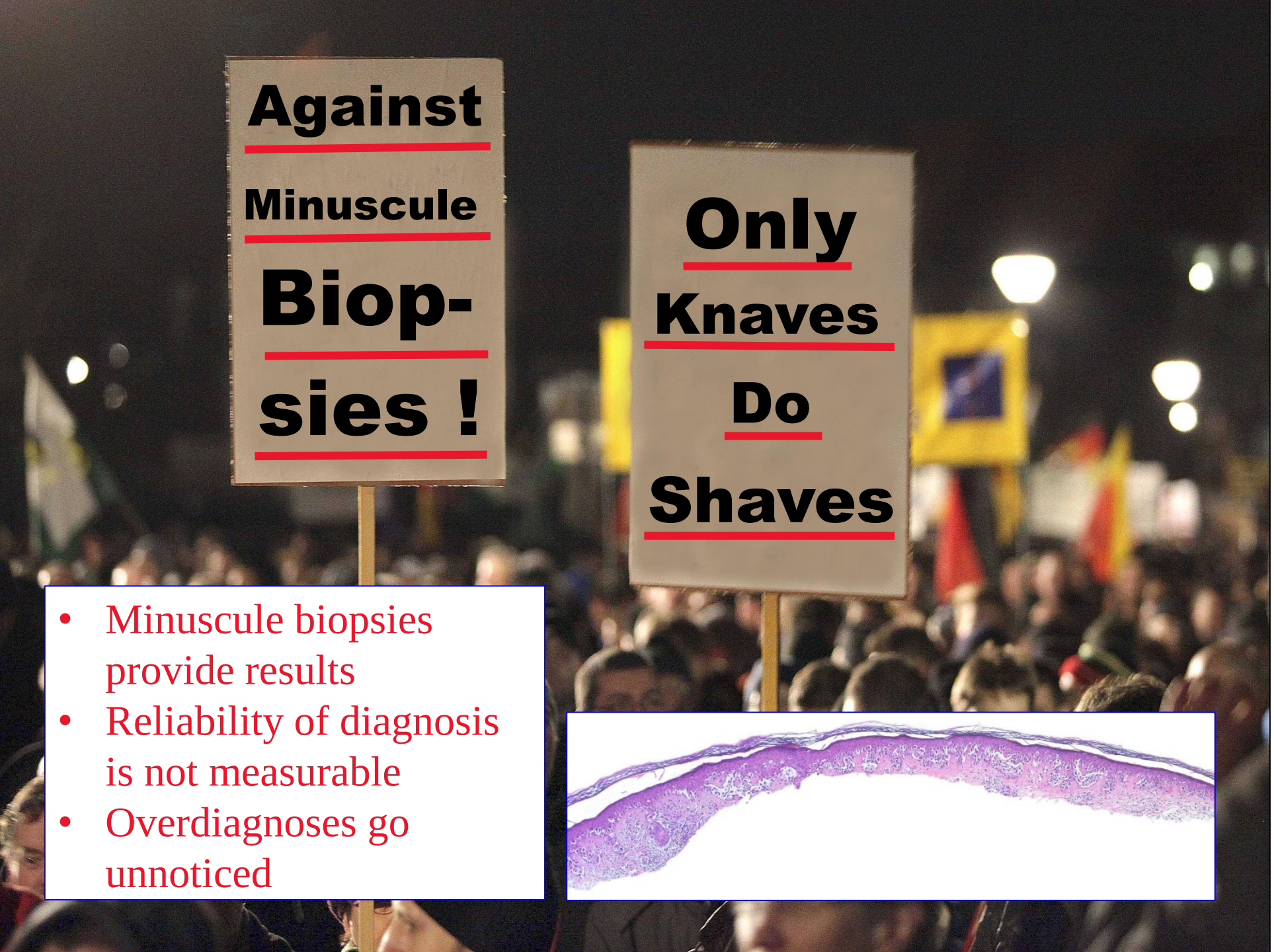
- Minuscule biopsies provide results

This is also true for neoplasms: in this extremely superficial shave biopsy specimen, a melanoma can be diagnosed with confidence based on the irregular distribution of melanocytes, or at least with a high degree of probability. This takes us to the second explanation:



- Minuscule biopsies provide results
- Reliability of diagnosis is not measurable

the reliability of diagnosis is not measurable. Whether the diagnosis of melanoma in this case is 100% certain, 99%, or 85%, cannot be specified; in the end, interpretation of findings is always subjective. This is almost certainly a melanoma, but minimal doubts remain. The latter, however, are difficult to communicate, and because a diagnosis is needed for the management of patients, it is usually given in cases such as this one. The written pathology report looks just the same, no matter whether the biopsy was excellent or miserable.



- Minuscule biopsies provide results
- Reliability of diagnosis is not measurable
- Overdiagnoses go unnoticed

The third explanation is that overdiagnoses usually go unnoticed. Should this not be a melanoma, nobody will find out.

- Minuscule biopsies provide results
- Reliability of diagnosis is not measurable
- Overdiagnoses go unnoticed

For those reasons, cancer screening also bares risks, as has been emphasized repeatedly in recent years, but without due consideration of the underlying reasons.

Das Erste

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KONTRASTE
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Do 16.04.2015 | 21:45 | Kontraste

Hunderte Millionen für sinnloses Hautkrebsscreening vergeudet

Spiel mit der Angst

Hautkrebs gilt derzeit als die häufigste Krebserkrankung in Deutschland. Die Einführung des Hautkrebsscreenings als Kassenleistung vor sieben Jahren schien deshalb auf den ersten Blick gut angelegtes Geld zu sein. Doch KONTRASTE liegt jetzt exklusiv die erste Evaluationsstudie der Reihenuntersuchung vor. Das Ergebnis ist katastrophal: Von den

Therefore, wrong conclusions have been uttered, e.g., to withdraw from cancer screening. In German television, cancer screening has been referred to as the *"game with the Angst."*

The New York Times warned that cancers survivors may, in reality, be *"victims of overdiagnosis."* Epidemiologists especially have addressed the problem of overdiagnosis and have re-defined the term.

International Journal of Epidemiology

Vol. 18, No. 2
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Evaluation of Overdiagnosis of Breast Cancer in Screening with Mammography: Results of the Nijmegen Programme

PETRA H M PEETERS*, A L M VERBEEK*, H STRAATMAN*, R HOLLAND**, J H C L HENDRIKS†, M MRAVUNAC‡, C ROTHENGATTER§, A VAN DIJK-MILATZ§ AND J M WERRE§

Peeters P H M (Department of Epidemiology, Institute of Social Medicine, Nijmegen University, Verlengde Groenestraat 75, 6525 EJ Nijmegen, The Netherlands), Verbeek A L M, Straatman H, Holland R, Hendriks J H C L, Mravunac M, Rothengatter C, Van Dijk-Milatz A and Werre J M. Evaluation of overdiagnosis of breast cancer in screening with mammography: results of the Nijmegen programme. *International Journal of Epidemiology* 1989, **18**: 295–299.

After 12 years of screening for breast cancer in Nijmegen (1975–86), during which period six mammographic examination rounds were carried out, the extent of overdiagnosis was evaluated. Overdiagnosis is defined as a histologically established diagnosis of invasive or intraductal breast cancer that would never have developed into a clinically manifest tumour during the patient's normal life expectancy if no screening examination had been carried out. The whole 12-year period shows an excess of 11% of breast cancer cases in Nijmegen, compared with the neighbouring city of Arnhem, where no mass screening was performed. The incidence of breast cancers in Nijmegen in the period 1975–78 is higher, compared with the incidence rates in Arnhem; the rate ratio is 1.30. For the time-intervals 1979–82 and 1983–86 the rate ratios are 1.03 and 1.01 respectively with (0.89; 1.18) and (0.86; 1.16) as 95% confidence intervals. This leads to the conclusion that there is no evidence that screening programmes using modern mammography constitute a significant risk for overdiagnosis of breast cancers.

To them, "overdiagnosis" is not a misdiagnosis but a "*histologically established diagnosis of invasive or intraductal breast cancer that would never have developed into a clinically manifest tumour during the patient's normal life expectancy if no screening examination had been carried out.*"
Of course, nobody knows in advance whether or not a histopathologically established malignant neoplasm will develop into a *"clinically manifest tumour,"* and, of course, a patient may exceed his or her *"normal life expectancy"*? Just think of Oscar Niemeyer who died of melanoma at age 105.

Addressing overdiagnosis and overtreatment in cancer: a prescription for change

Laura J Esserman, Ian M Thompson, Brian Reid, Peter Nelson, David F Ransohoff, H Gilbert Welch, Shelley Hwang, Donald A Berry, Kenneth W Kinzler, William C Black, Mina Bissell, Howard Parnes, Sudhir Srivastava

A vast range of disorders—from indolent to fast-growing lesions—are labelled as cancer. Therefore, we believe that several changes should be made to the approach to cancer screening and care, such as use of new terminology for indolent and precancerous disorders. We propose the term indolent lesion of epithelial origin, or IDLE, for those lesions (currently labelled as cancers) and their precursors that are unlikely to cause harm if they are left untreated. Furthermore, precursors of cancer or high-risk disorders should not have the term cancer in them. The rationale for this change in approach is that indolent lesions with low malignant potential are common, and screening brings indolent lesions and their precursors to clinical attention, which leads to overdiagnosis and, if unrecognised, possible overtreatment. To minimise that potential, new strategies should be adopted to better define and manage IDLEs. Screening guidelines should be revised to lower the chance of detection of minimal-risk IDLEs and inconsequential cancers with the same energy traditionally used to increase the sensitivity of screening tests. Changing the terminology for some of the lesions currently referred to as cancer will allow physicians to shift medicolegal notions and perceived risk to reflect the evolving understanding of biology, be more judicious about when a biopsy should be done, and organise studies and registries that offer observation or less invasive approaches for indolent disease. Emphasis on avoidance of harm while assuring benefit will improve screening and treatment of patients and will be equally effective in the prevention of death from cancer.

Nevertheless, this caricature of a definition has become accepted worldwide, and it has been proposed, as "a prescription for change," to simply refer to the early stages of cancer by another name: *"We propose the term indolent lesion of epithelial origin, or ILDE, for those lesions (currently labelled as cancers) and their precursors that are unlikely to cause harm if they are left untreated."*

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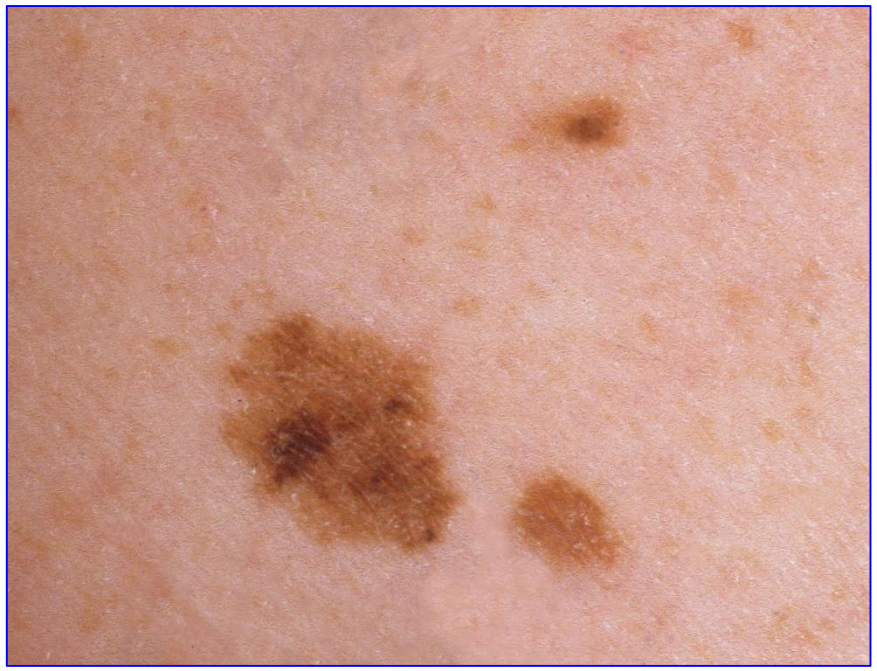
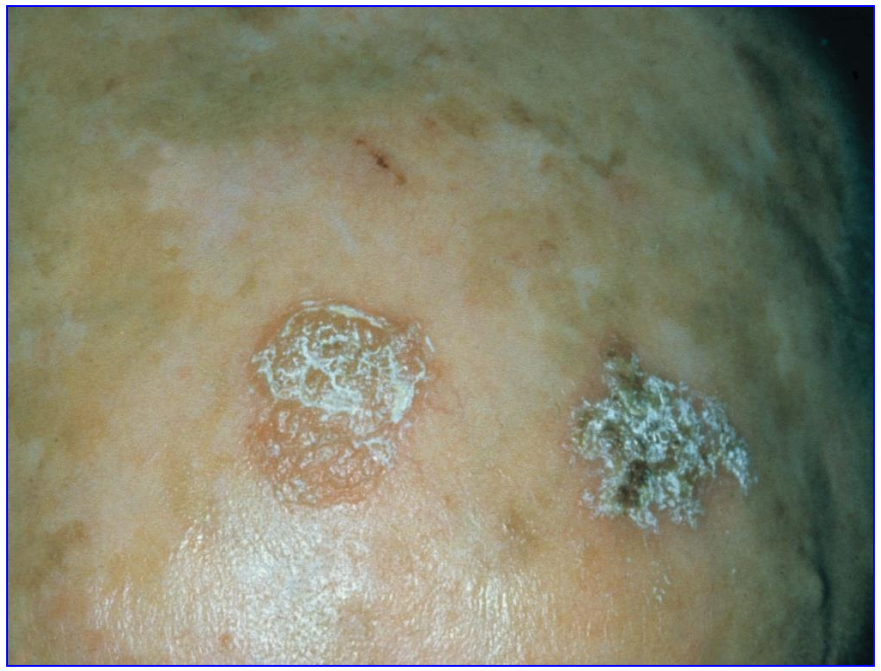
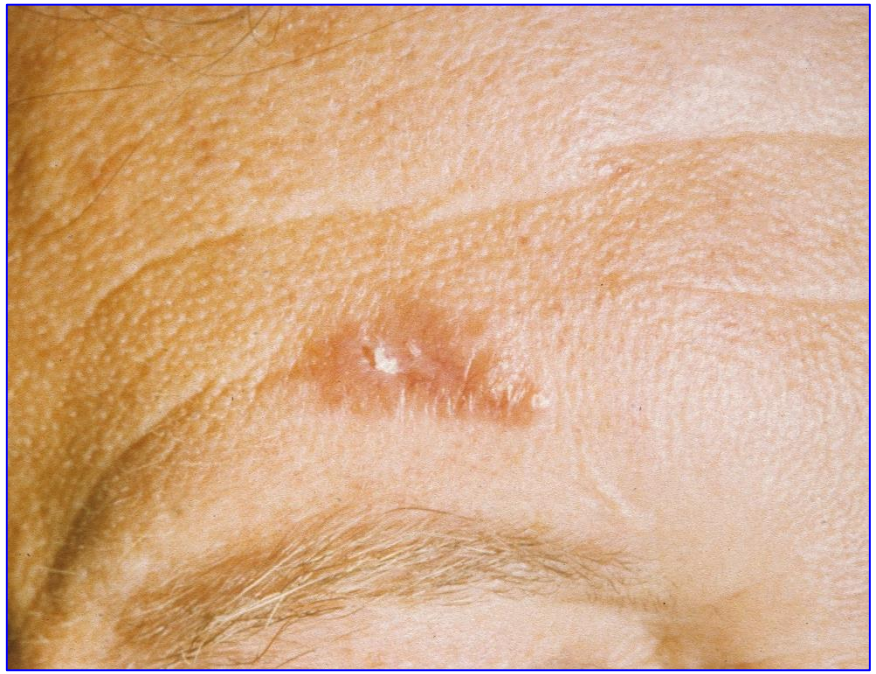
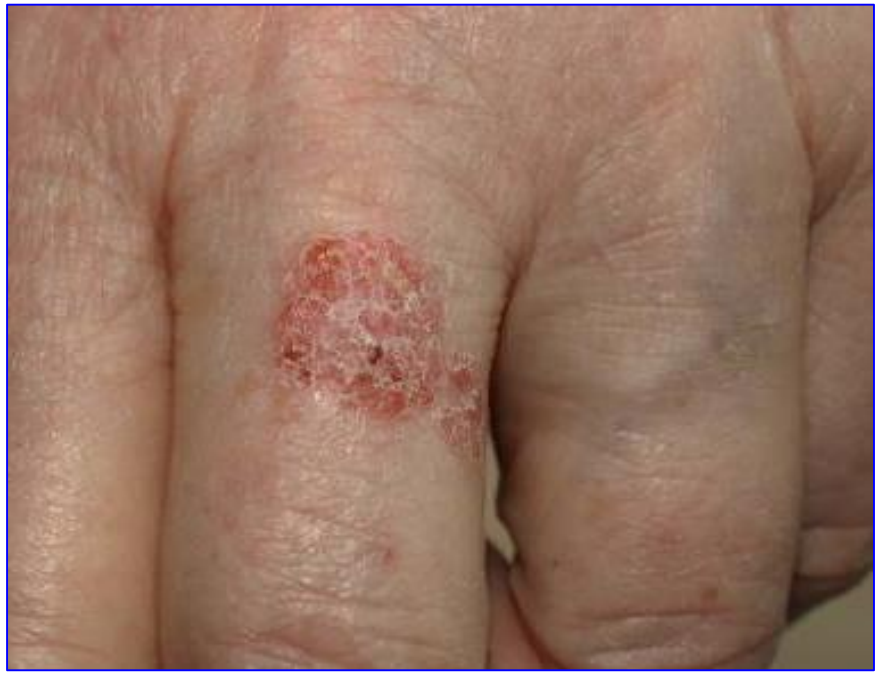
Moreover, it has been proposed that *"screening guidelines should be revised to lower the chance of detection of minimal-risk IDLEs and inconsequential cancers with the same energy traditionally used to increase the sensitivity of screening tests."*



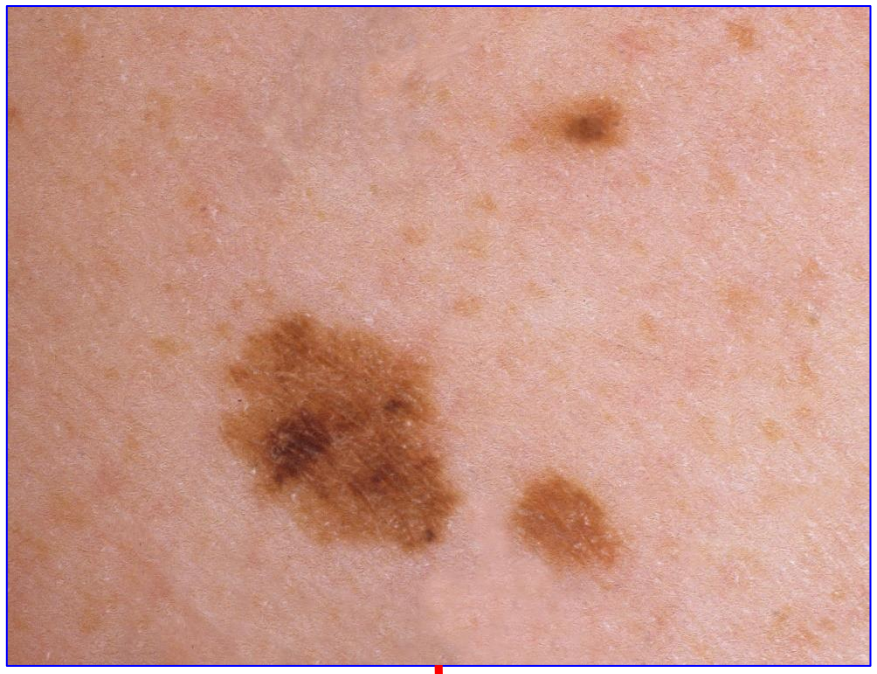


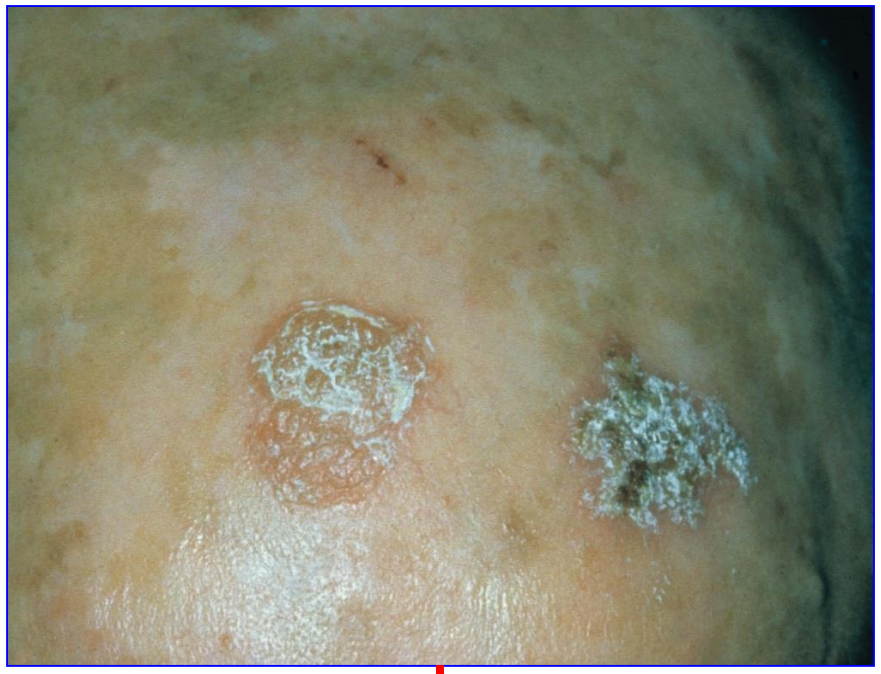


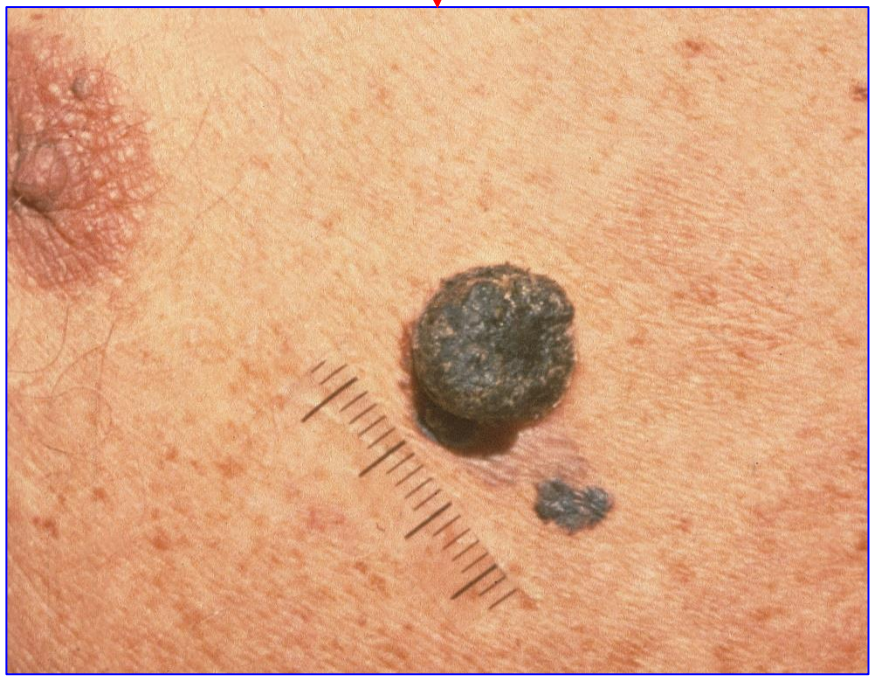


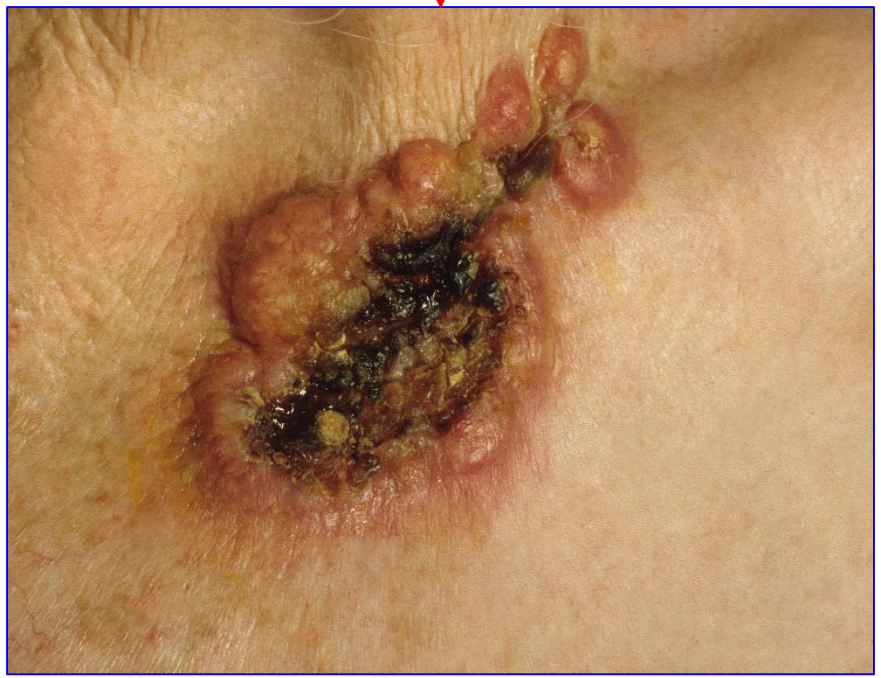
For dermatologists, this implies that they have to press their eyes close energetically in order not to notice tiny lesions of cancer in the skin of their patients.

In my view, those proposals are misleading and dangerous. It is true that malignant neoplasms often grow slowly and do not need to be treated immediately,

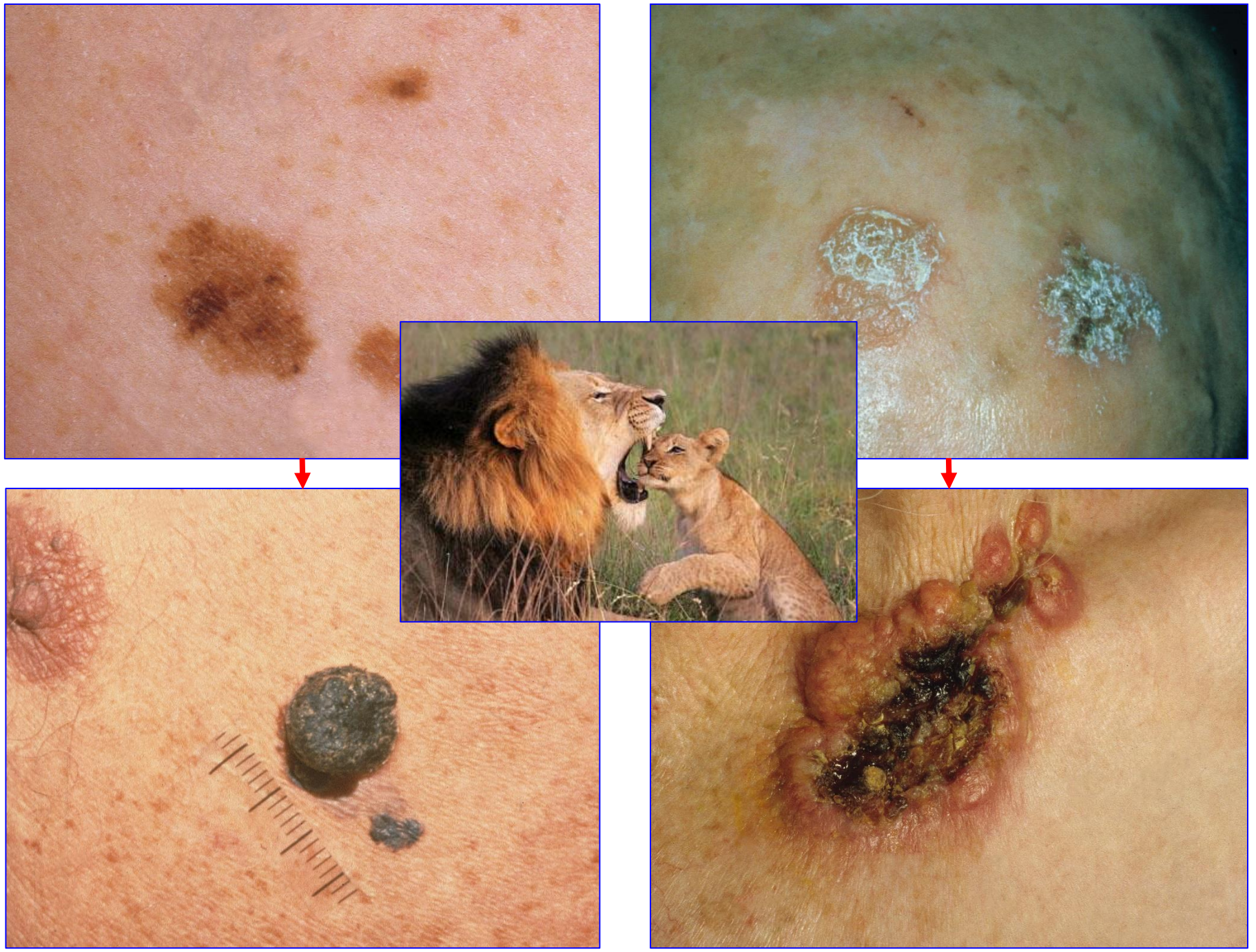








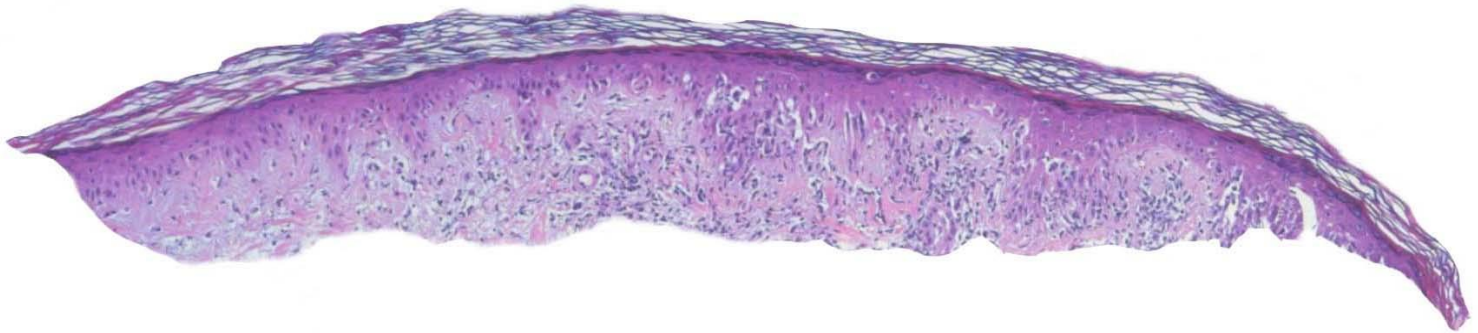
but sometimes progression is surprisingly rapid. Moreover, if medicine wants to be reckoned as a natural science, it must recognize and name entities for what they are. A melanoma in situ is a small melanoma and a carcinoma in situ a small carcinoma,



just as a lion puppy is a lion – currently harmless, but a hazardous predator nonetheless –, and no zoologist would ever propose to classify it as an “indolent example of the family of cats.” It is untenable scientifically and potentially dangerous to refer to entities by obfuscating names.

In order to resolve the problem of overdiagnosis, more is required than terminological prestidigitation; one must to address the underlying cause.

The Biggest Problem in Dermatology



And Ways to Resolve It

In dermatology, the chief cause is poor biopsies. How can that be resolved?

The Biggest Problem in Dermatology

And Ways to Resolve It

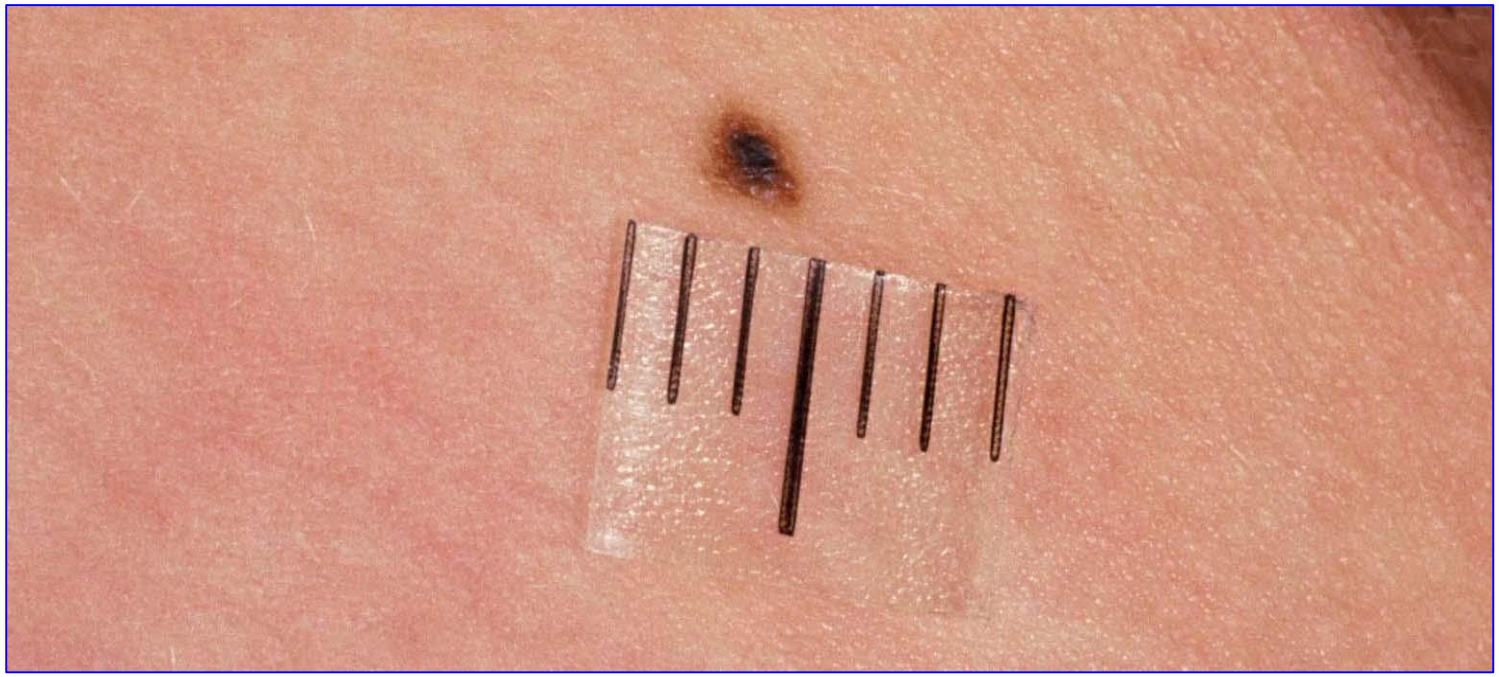
First, one must increase awareness of that problem. In principle, minuscule biopsies are known to be dangerous. This subliminal knowledge must be made explicit by addressing inadequate biopsies at congresses and in the medical literature.

The Biggest Problem in Dermatology

And Ways to Resolve It

Second, at least during their residency training, dermatologists should study their own biopsies microscopically in order to get a sense for problems created by them. In former times, this was customary at departments of dermatology, but it has been neglected in recent decades. Histopathologic study of one's own specimens is the best method to remedy flaws in biopsy technique.

The Biggest Problem in Dermatology



And Ways to Resolve It

Third, one should not push too hard for early diagnosis. If melanocytic neoplasms are biopsied at a stage this early, many nevi will be removed unnecessarily for a single melanoma.

Predictive value of biopsy specimens suspicious for melanoma: Support for 6-mm criterion in the ABCD rule

Razieh Soltani-Arabshahi, MD,[a] Carol Sweeney, PhD,[b,c] Benjamin Jones, BSc,[d] Scott R. Florell, MD,[a] Nan Hu, PhD,[b,e] and Douglas Grossman, MD, PhD[a,e]
Salt Lake City, Utah

Objective: Clinical detection of melanoma can be challenging. The number of biopsy specimens performed to diagnose 1 melanoma is a measure of efficiency of skin cancer detection, but few data are available to describe this measure from US health care. We studied the diagnosis of melanoma among biopsy specimens of clinically concerning pigmented lesions at an academic dermatology department.

Methods: We searched for all biopsy specimens that were performed because of clinical suspicion of melanoma in 2013. Characteristics of the patient, lesion, and clinician performing the biopsy, and the final pathology diagnosis were recorded.

Results: A total of 2643 biopsy specimens from 2213 patients submitted by 43 providers were included. Melanoma was diagnosed in 165 cases (positive predictive value 6.4%, 95% confidence interval 5.5%-7.4%). Older age ($P < .001$), male gender ($P = .045$), and nontrunk location ($P < .001$) were predictors of higher probability of melanoma detection. Lesions larger than 6 mm in size had higher positive predictive value 11.5% (8.8%-14.1%) than smaller lesions 2.6% (1.6%-3.6%).

Limitations: Factors influencing the decision to biopsy a lesion may be difficult to evaluate retrospectively.

Conclusion: At an academic medical center, 16 clinically concerning lesions were biopsied to diagnose 1 melanoma. Biopsy specimens of clinically concerning pigmented lesions larger than 6 mm on older men had the highest yield. (J Am Acad Dermatol 2015;72:412-8.)

Key words: ABCD rule; biopsy; clinical decision-making; diagnosis; melanoma; positive predictive value.

In a recent study concerning biopsies for melanoma, the authors proposed to use the *"6-mm criterion in the ABCD rule"* as an indication for biopsy of pigmented lesions, arguing that *"lesions larger than 6 mm in size had higher positive predictive value"* and that melanomas measuring 6 mm in diameter are hardly ever dangerous. In principle, I concur with that suggestion.

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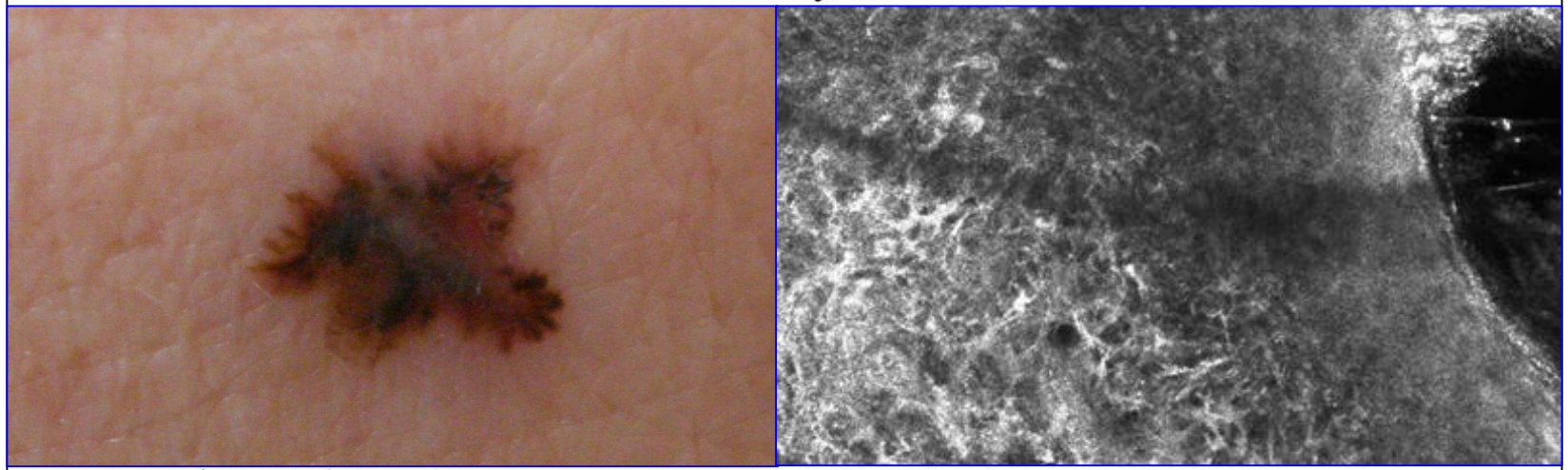

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Of course, clinical diagnosis can be improved by techniques such as dermatoscopy and confocal microscopy, and if criteria for malignancy are fulfilled clearly by smaller lesions, the latter should be excised.

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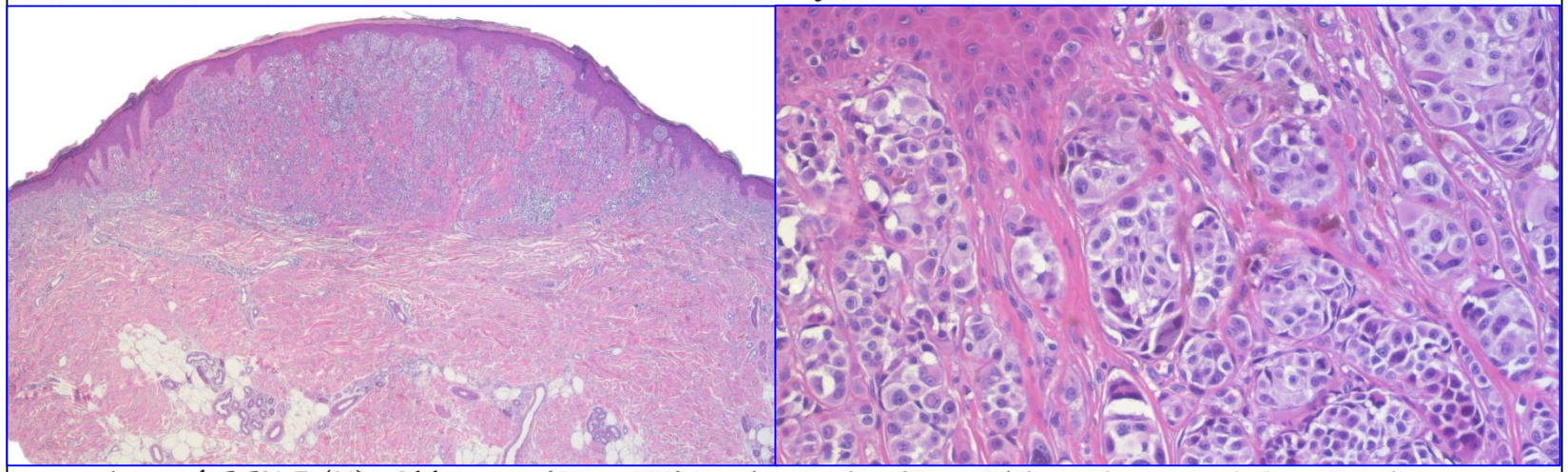

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I also acknowledge that melanomas with a small diameter may occasionally be life-threatening because they acquire considerable depth early-on.

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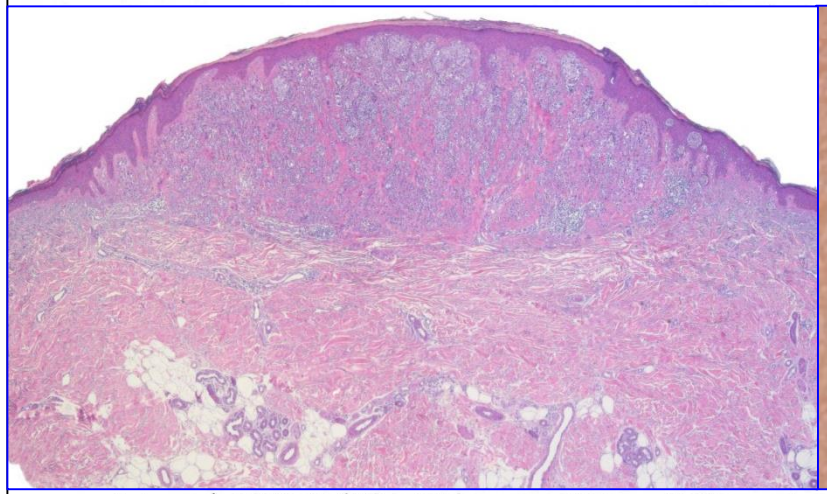

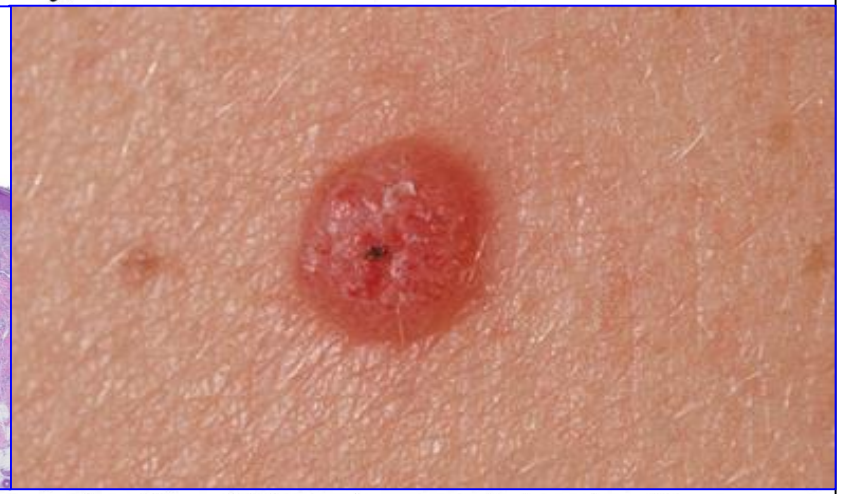

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Those exceptional lesions tend to be domed and scarcely pigmented, and they are the ones to focus on. If there are hints of pigment they should be excised without hesitation.

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In general, however, I believe that the 6-mm rule is not a bad idea, one reason not mentioned in that study being that histopathologic diagnosis is far more reliable than in smaller lesions.
Fourth, if smaller lesions are excised, they should at least be excised completely, and with a narrow margin of normal skin. This should be easy because they are so small.

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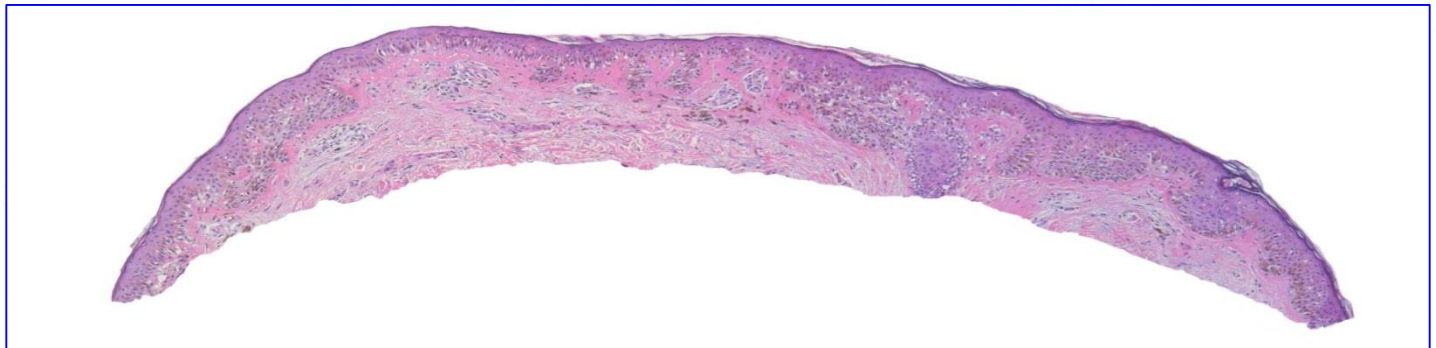
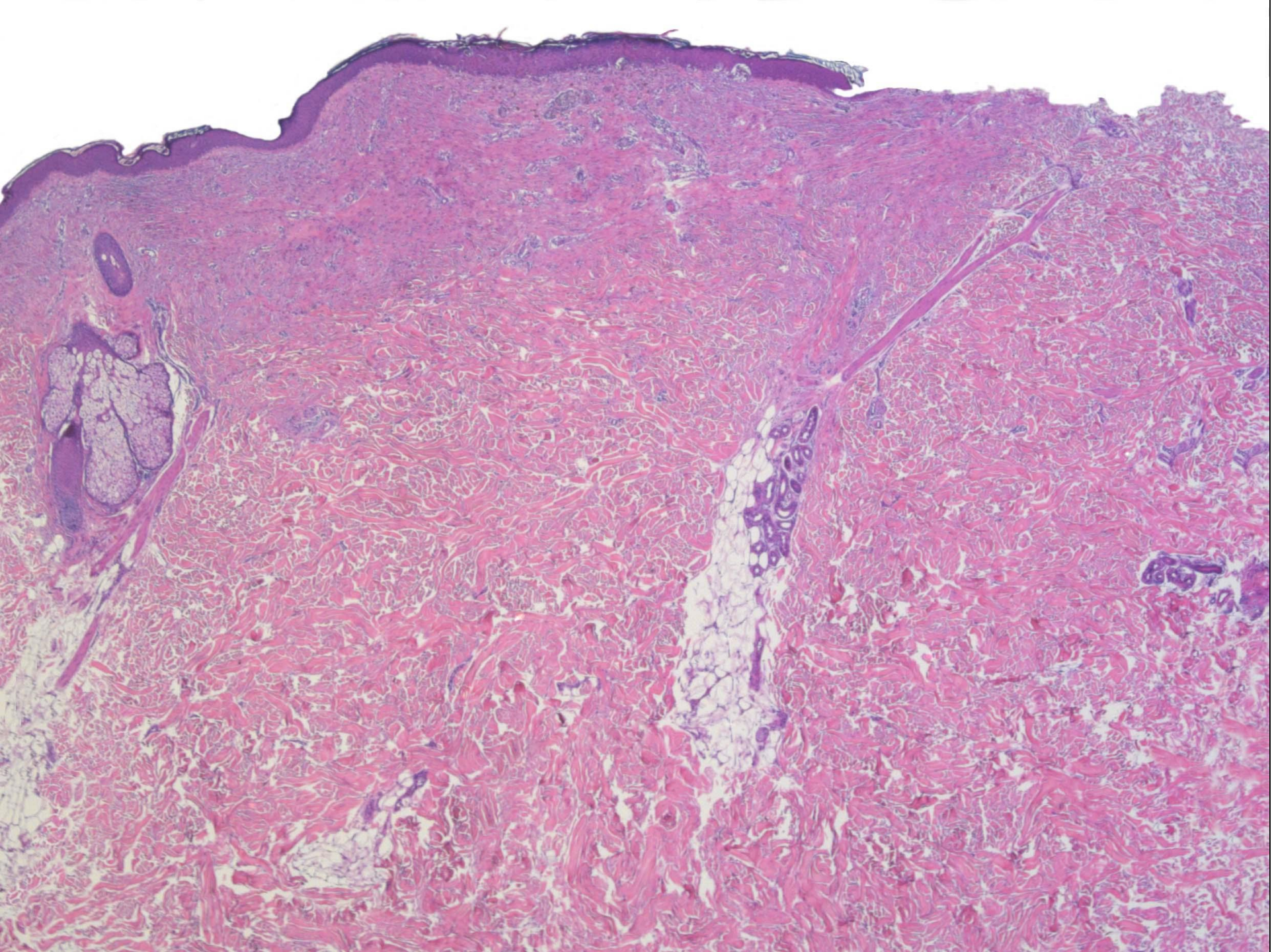
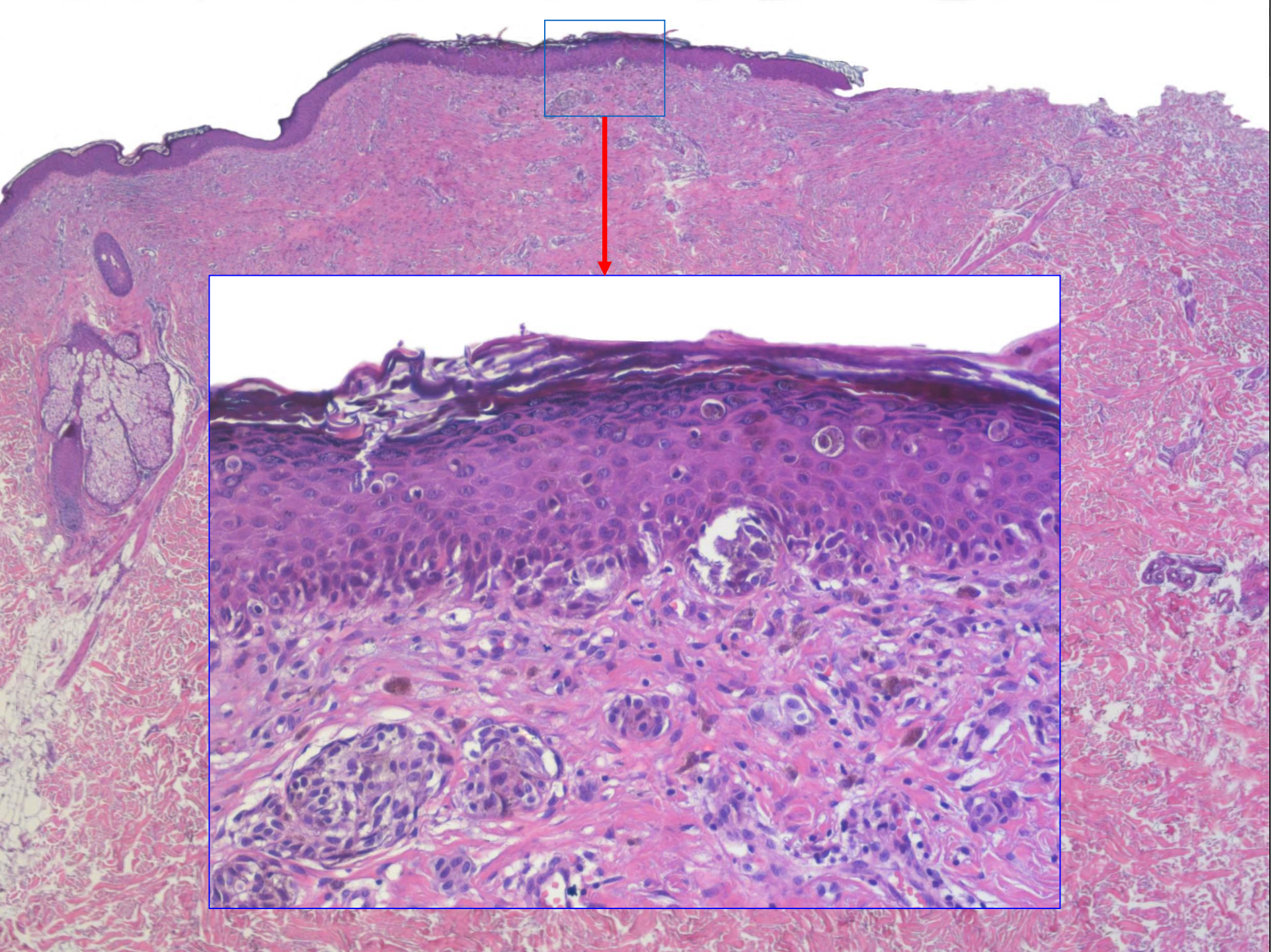


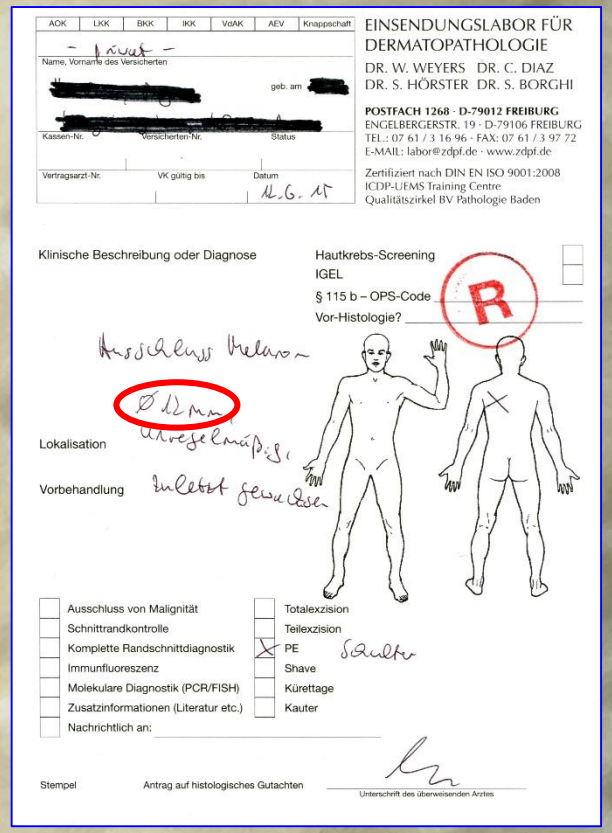
If a lesion that small extends to a lateral margin, or if extension to one margin is simulated by a tangential cut of a coiled superficial shave biopsy specimen, the risk of overdiagnosis is substantial. This is probably a nevus, but a melanoma in situ cannot be ruled out. Therefore, a re-excision is indispensable, but all too often,



it does not resolve the conundrum either because nothing or only a small portion of the lesion is left. In the latter instance,



those remnants are often difficult to interpret because of signs of irritation caused by the previous procedure, such as melanocytes in the upper reaches of the epidermis. As a consequence, the patient may have undergone two unnecessary excisions and may carry the false label of possible melanoma for his lifetime.



AOK | LKK | BKK | IKK | VdAK | AEV | Knappschaft

Name, Vorname des Versicherten: – privat –

geb. am: [redacted]

Kassen-Nr. | Versicherten-Nr. | Status

Vertragsarzt-Nr. | VK gültig bis | Datum: 11.6.15

EINSENDUNGSLABOR FÜR DERMATOPATHOLOGIE

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Zertifiziert nach DIN EN ISO 9001:2008
ICDP-UEMS Training Centre
Qualitätszirkel BV Pathologie Baden

Klinische Beschreibung oder Diagnose: Ausschluss Melanom; Ø 12 mm; Axillarmuttermal?

Hautkrebs-Screening
IGEL
§ 115 b – OPS-Code
Vor-Histologie?

R

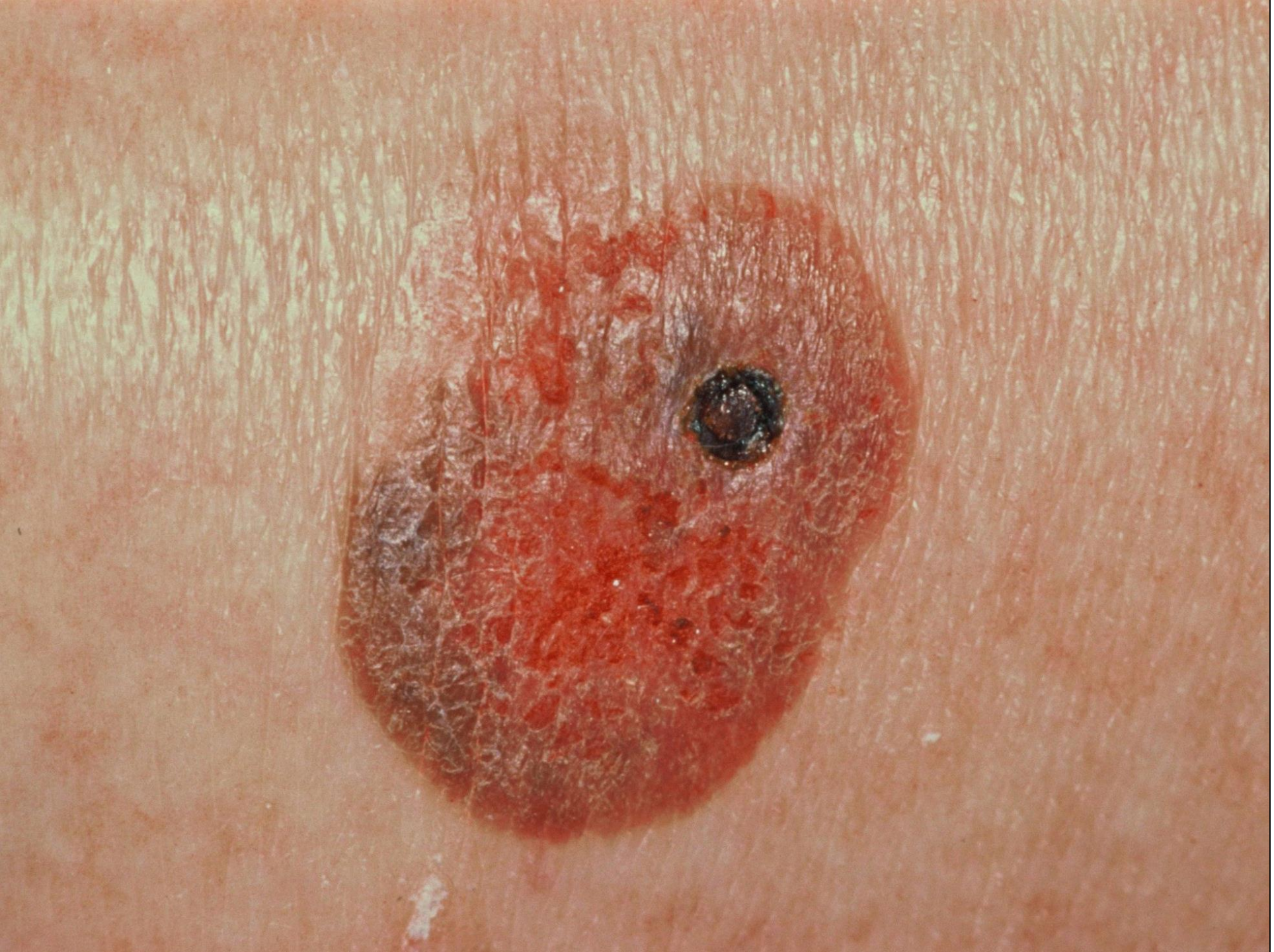
Lokalisation

Vorbehandlung: zuletzt gewachsen

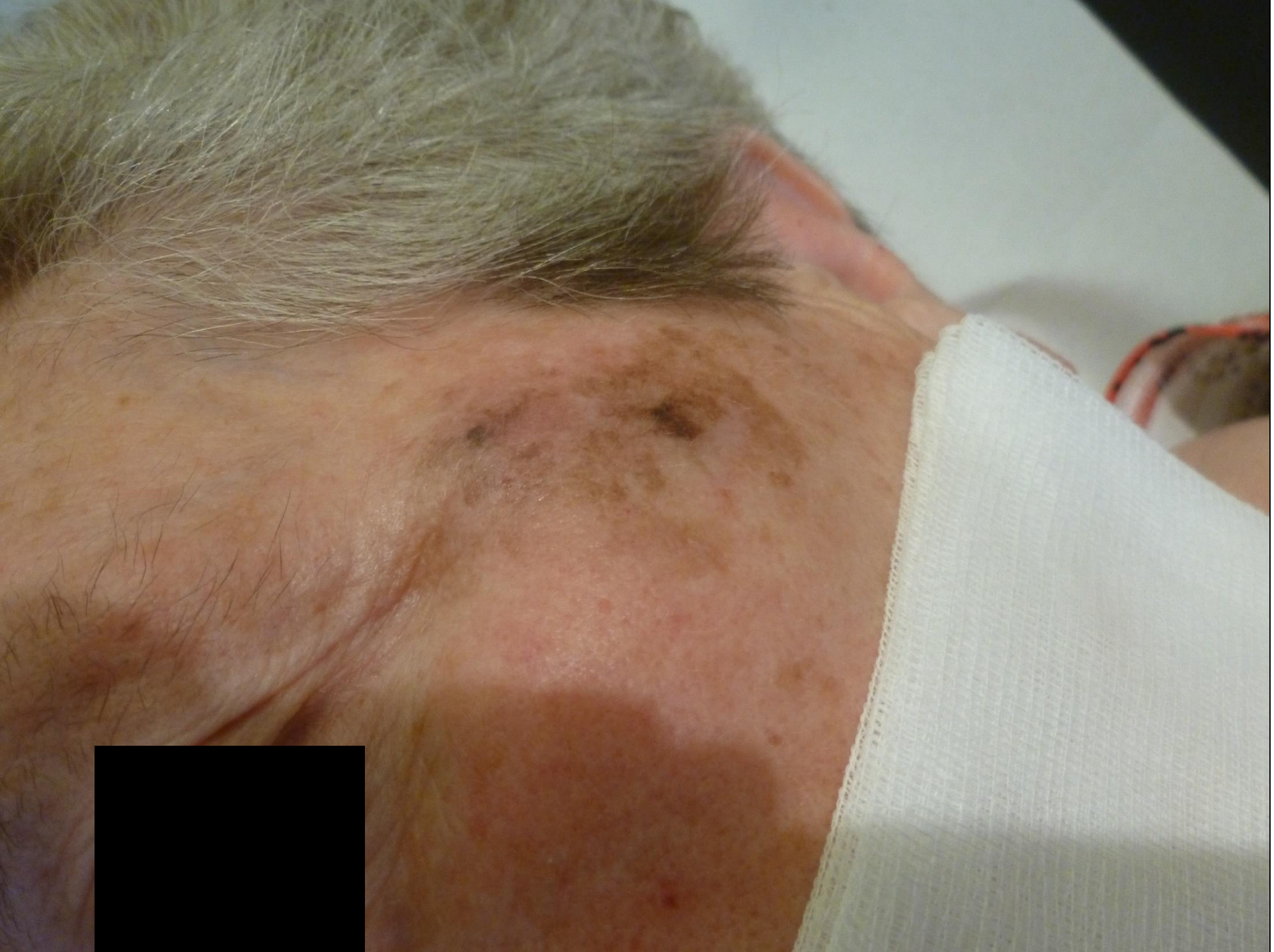
- [ ] Ausschluss von Malignität
- [ ] Schnittrandkontrolle
- [ ] Komplette Randschnittdiagnostik
- [ ] Immunfluoreszenz
- [ ] Molekulare Diagnostik (PCR/FISH)
- [ ] Zusatzinformationen (Literatur etc.)
- [ ] Nachrichtlich an:
- [ ] Totalexzision
- [ ] Teilexzision
- [x] PE Schulter
- [ ] Shave
- [ ] Kürettage
- [ ] Kauter

Stempel | Antrag auf histologisches Gutachten | Unterschrift des überweisenden Arztes

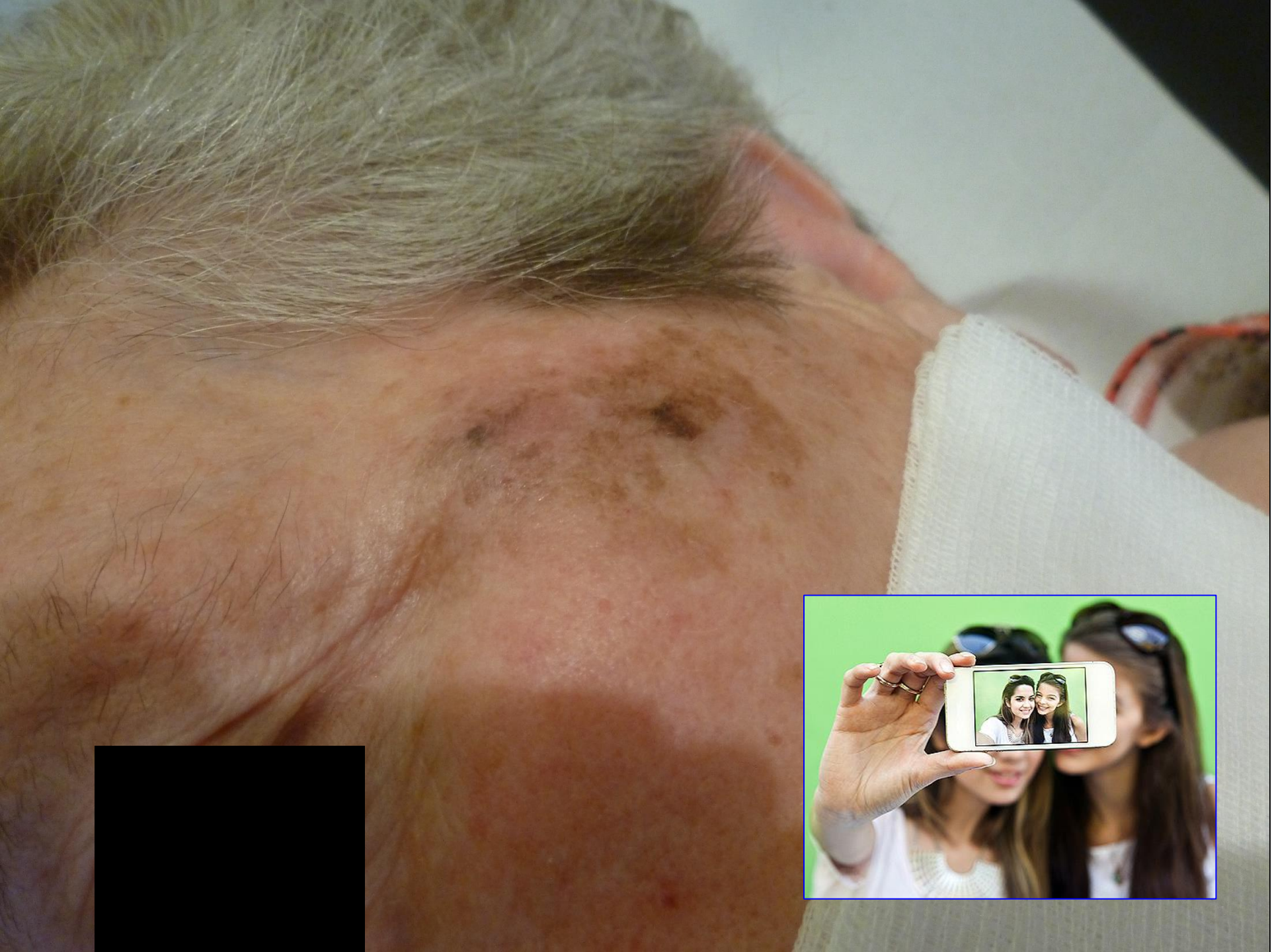
Fifth, whenever a neoplasm is excised incompletely, or with a very narrow margin, the clinical diameter should be communicated on the request form. The clinical information should compensate for anything the histopathologist cannot see, such as size and architecture of the lesion.



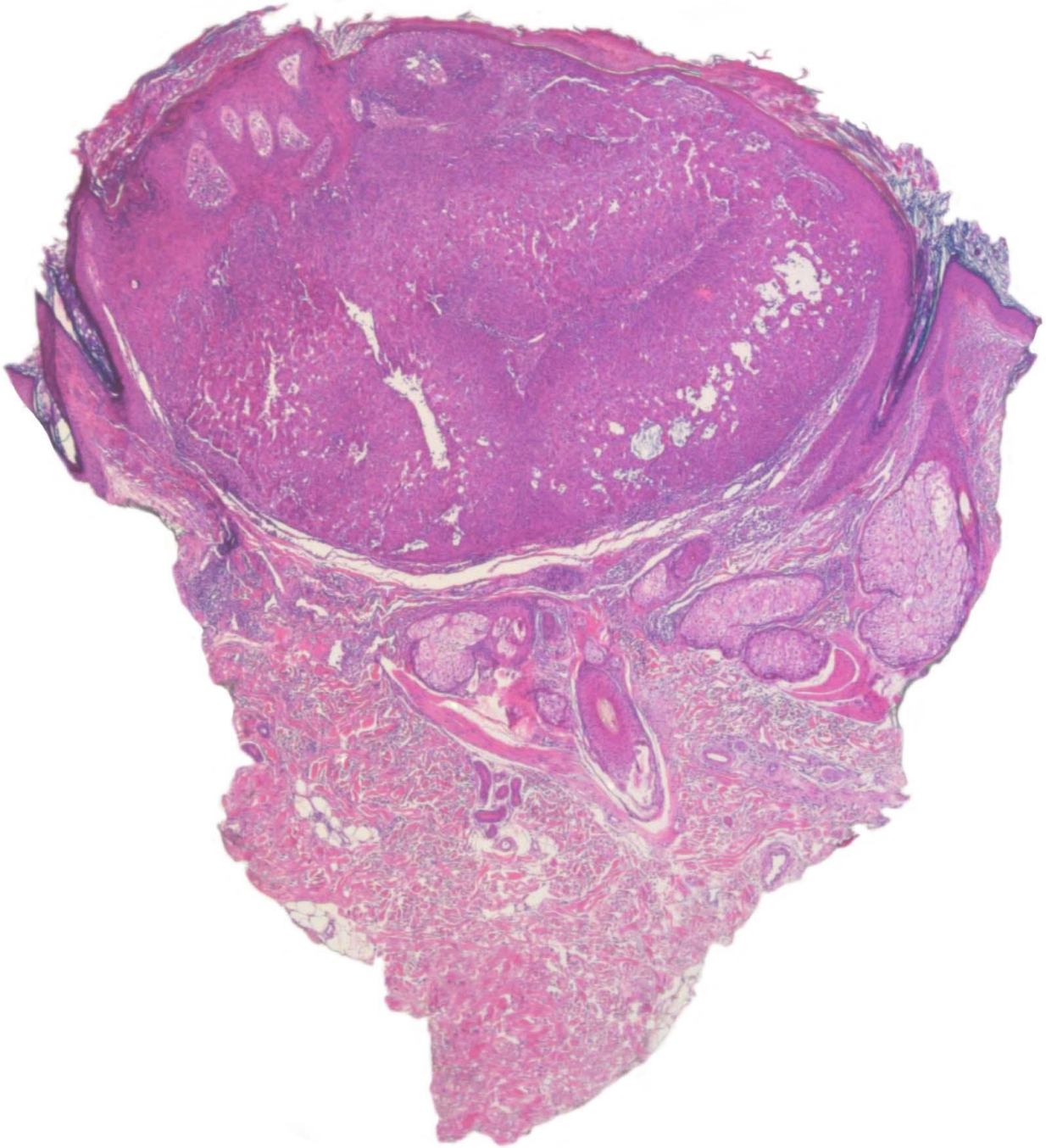
It makes big difference whether a punch biopsy specimen comes from a lesion measuring 2 mm or 2 cm in size.



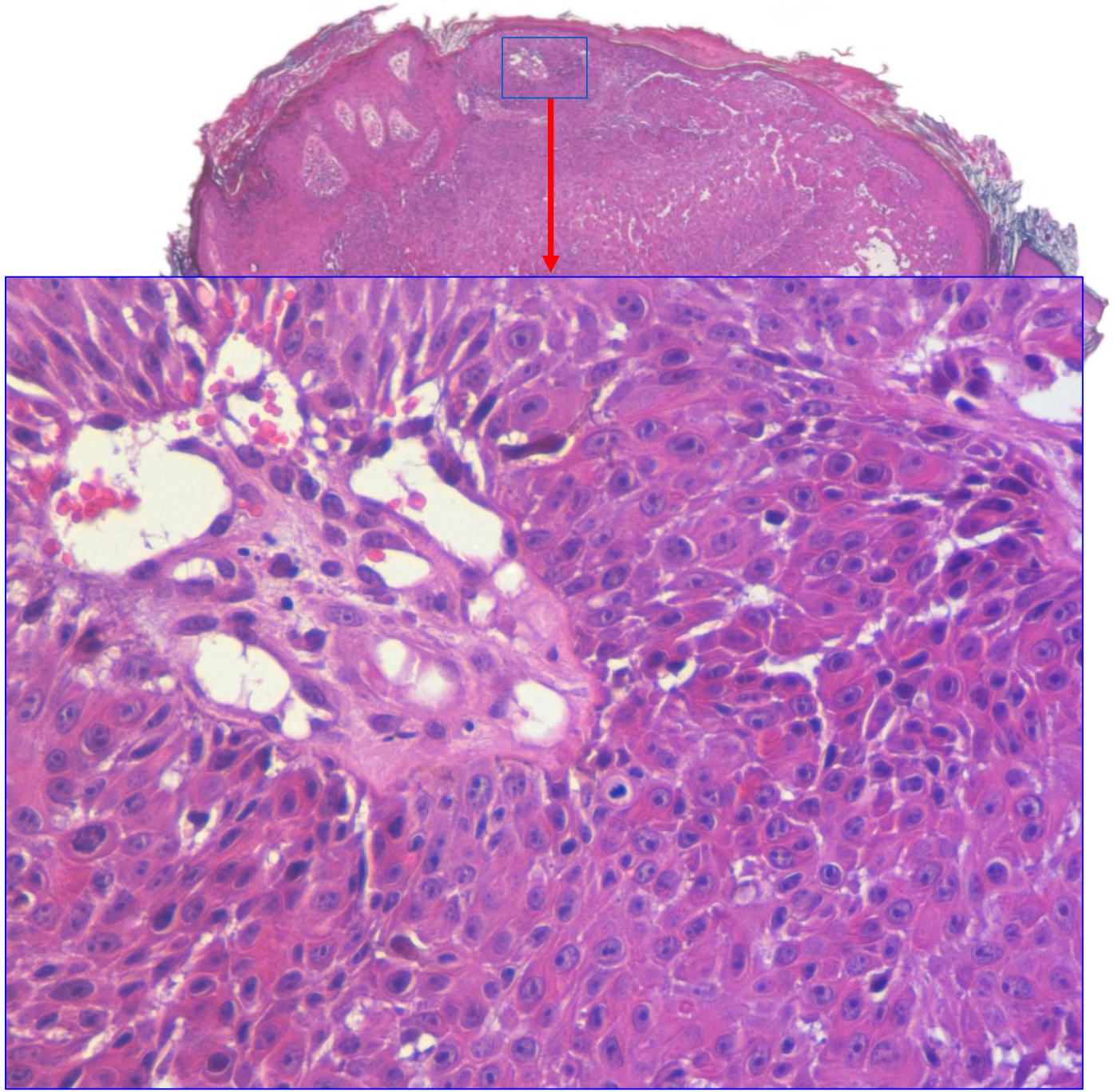
A clinical picture is even better.



In the era of smartphones and selfies, it should not cause insurmountable problems to send a clinical picture for every incisional biopsy specimen of a melanocytic lesion.



Sixth, one should refrain from biopsy of irritated lesions. As in this wart,



irritation may result in considerable nuclear atypia and mitotic figures, and in superficial biopsy specimens, those changes may cause overdiagnosis as squamous cell carcinoma. The magnitude of this problem cannot be overemphasized. There is no doubt that every day, around the world, thousands of irritated warts or seborrheic keratosis are misdiagnosed as squamous-cell carcinoma in superficial biopsy specimens.

The American Journal of Dermatopathology 17(1): 1–6, 1995

UV-Irradiated Melanocytic Nevi Simulating Melanoma In Situ

Michael Tronnier, M.D., and Helmut H. Wolff, M.D.

A causative role of UV light in the development of melanocytic neoplasms has often been suggested. In order to investigate the short-term effects of UV light on melanocytic nevi, the morphological and immunohistochemical changes in nevi after a single UV irradiation are studied in 12 nevi from 10 patients and compared with the nonirradiated part of the same nevus. After irradiation more melanocytes above the dermal-epidermal junction are observed in seven nevi, simulating a melanoma in situ in three nevi. Moreover, a marked increase in the expression of HMB-45 is found after irradiation in all investigated nevi, indicating an activation of the melanocytes and active melanosome formation. The metabolic activity correlates with the ultrastructural findings, which show a large cytoplasm, hypertrophic Golgi apparatus, abundant mitochondria, and an increased number of melanosomes of different stages. One week after irradiation, no increase in the proliferative activity of the melanocytes is found. The morphological and immunohistochemical changes after one low dose of UV irradiation should be considered in the differential diagnosis of pigmented skin lesions. The UV-irradiated nevus should be added to the list of so-called simulators of malignant melanoma.

Key Words: UV irradiation—Melanocytic nevus—Simulators of melanoma—Ultrastructure—Immunohistochemistry.

Whereas most melanocytic lesions can be easily differentiated by histomorphological criteria, in some conditions melanocytic nevi display morphological changes that simulate melanomas. Those benign simulators of melanoma (e.g., recurrent nevi, genital nevi, and nevi of the newborn) have been summarized as "pseudomelanomas" (1). To consider those simulators as a differential diagnosis, it is necessary to know their histopathological features, and it is helpful to have the exact clinical data of the patients.

Histological investigations of a large number of nevi have shown seasonal variations in their morphological features (2,3). Those findings have indicated an influence of the sunlight on nevi. Because of the possible causative role of UV light in the induction and promotion of melanocytic tumors (4,5), we investigated the short-term effect of UV irradiation on benign melanocytic nevi. The purpose of this article is to report the morphological changes in nevi that may appear after a single irradiation with UV light.

Irritation of melanocytic lesions is an even greater problem. For example, brief ultraviolet irradiation has been shown to evoke changes reminiscent of melanoma in situ in banal melanocytic nevi,

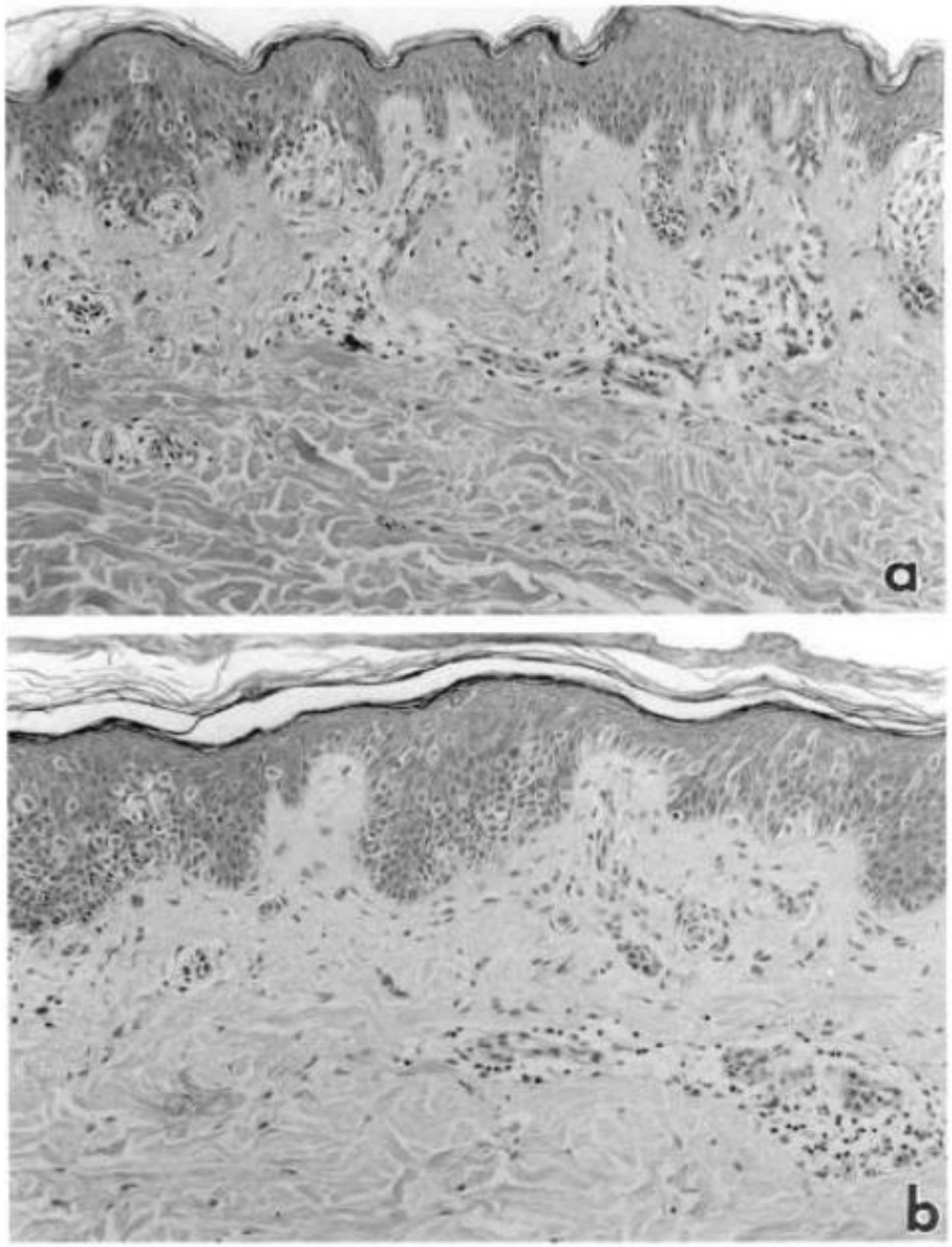
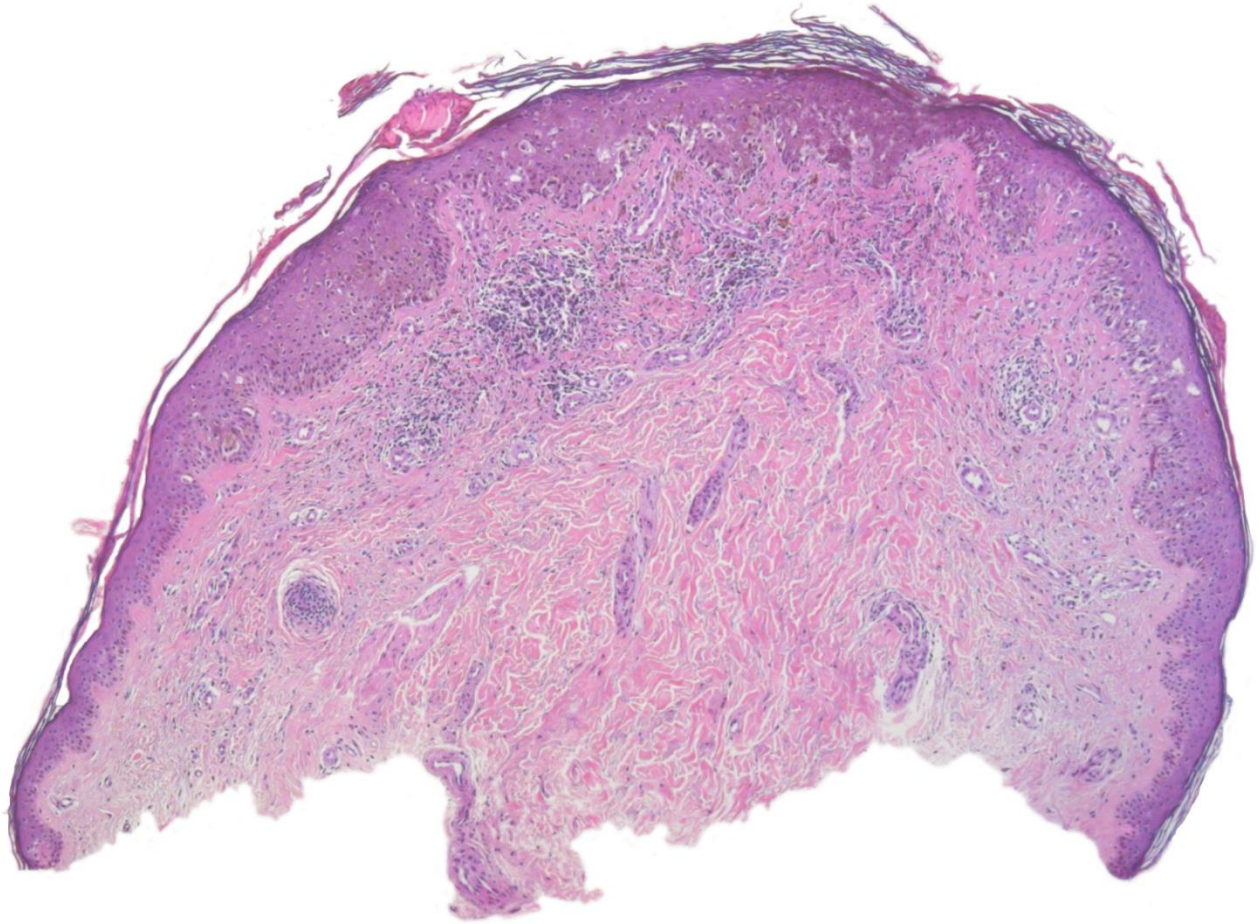
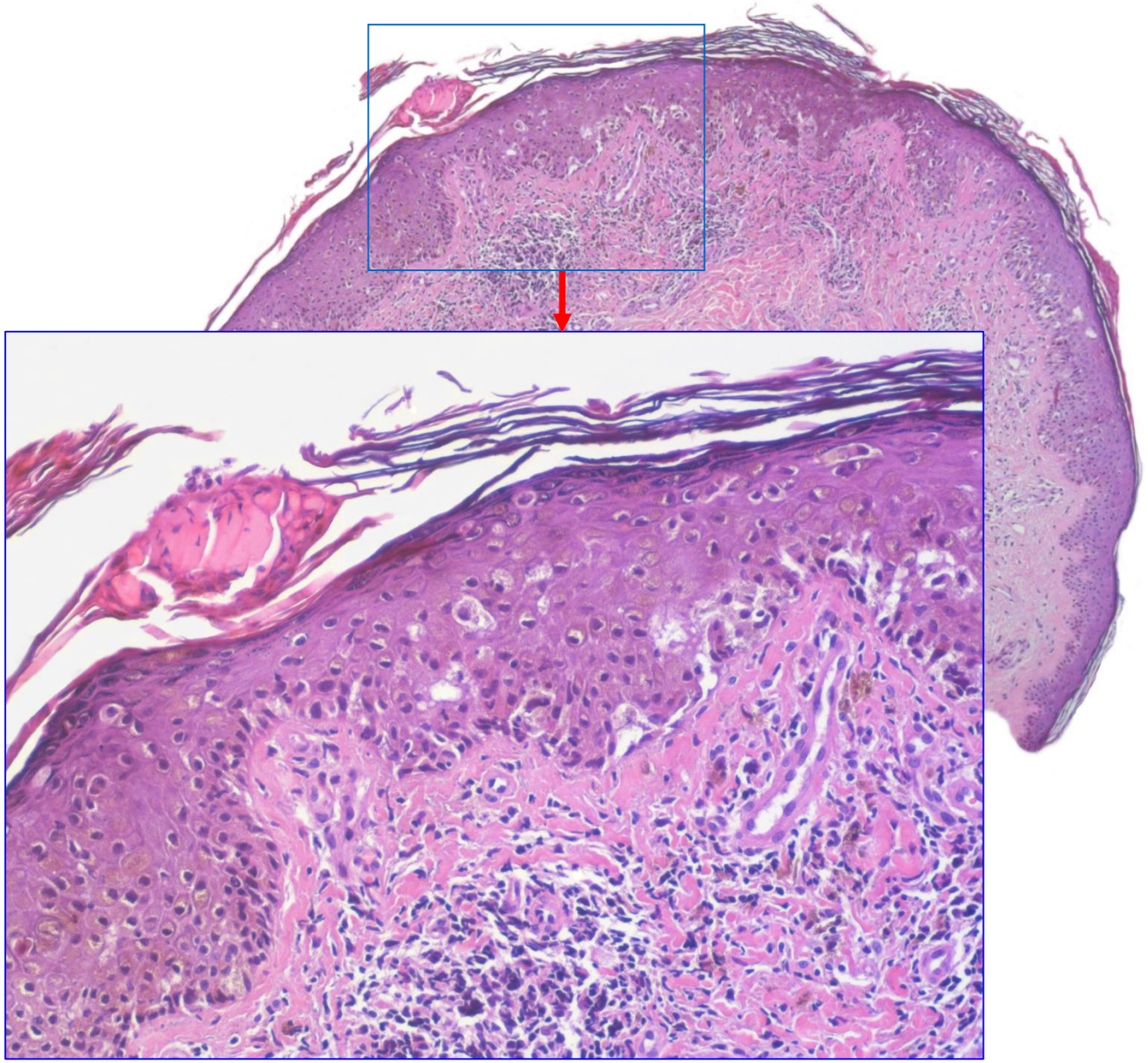


FIG. 1. (a) MN/nUV. Single and nested melanocytes at the dermal-epidermal junction. **(b)** MN/+UV. Same nevus. Many, mostly single melanocytes are seen above the dermal-epidermal junction, simulating a melanoma in situ. Parakeratosis is evident above the regular basket-weave horny layer. There is a slightly pronounced perivascular inflammatory infiltrate.

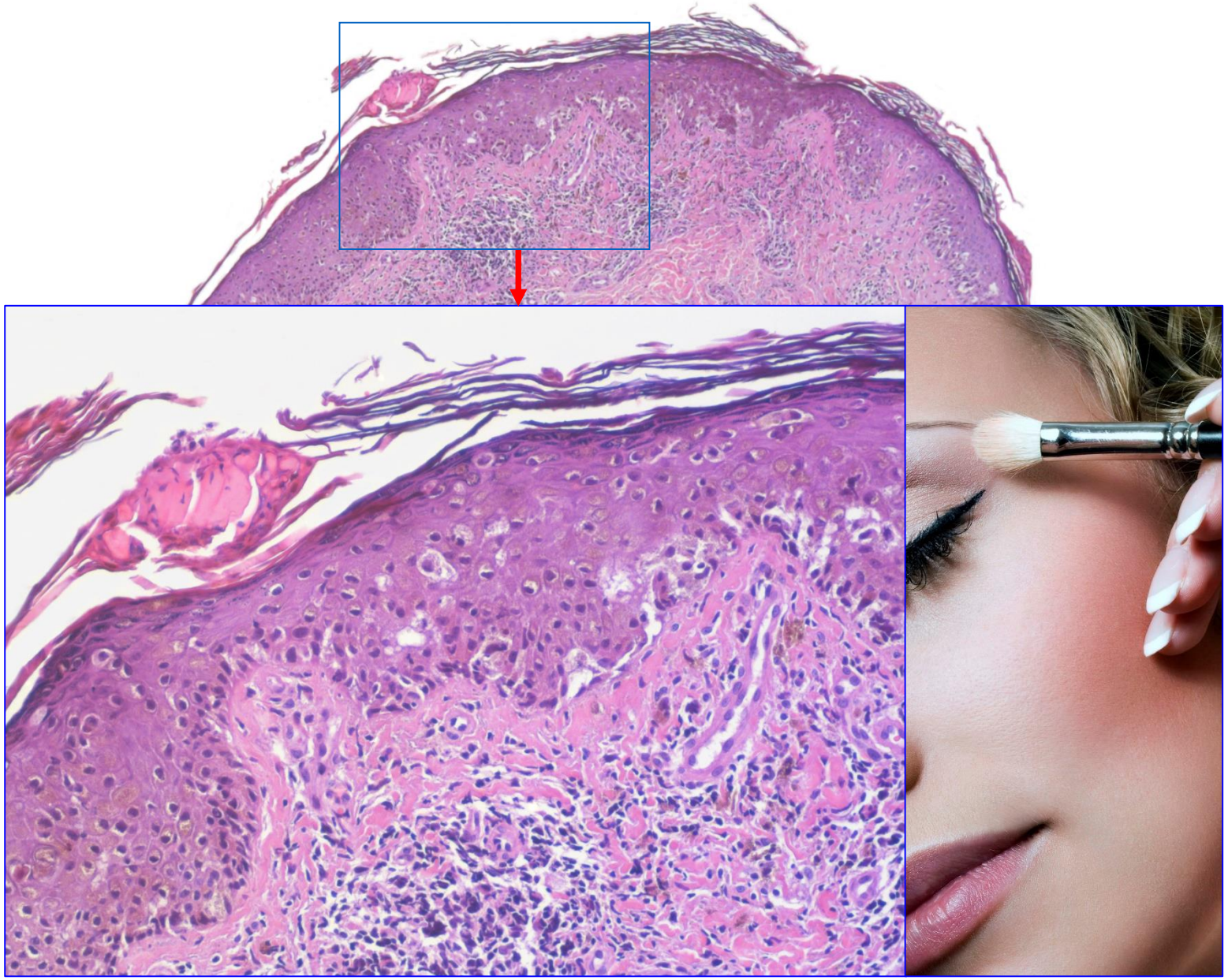
as demonstrated by pictures of the protected and the irradiated half of a nevus. So much for the grading of nevi and for the claim that it has any biological significance. Of course, the biologic potential of a lesion is not changed by a few hours in the sun, but its presentation may be,



and sometimes dramatically so. In this irritated nevus covered by a scale crust,

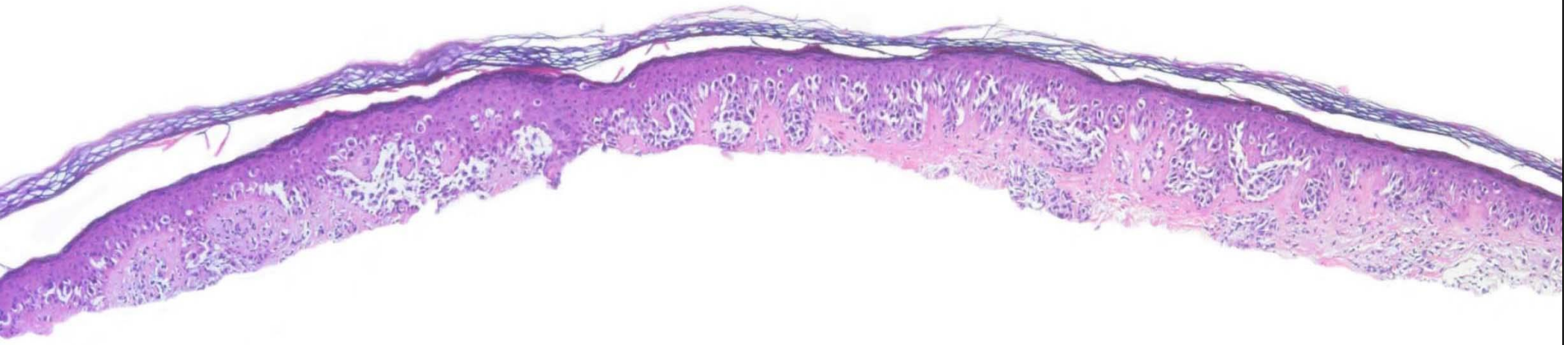


there are many largish melanocytes in all reaches of the epidermis, and the diagnosis of melanoma in situ would be made were it not for its small size, symmetry, and sharp circumscription. Because of those problems, irritated lesions



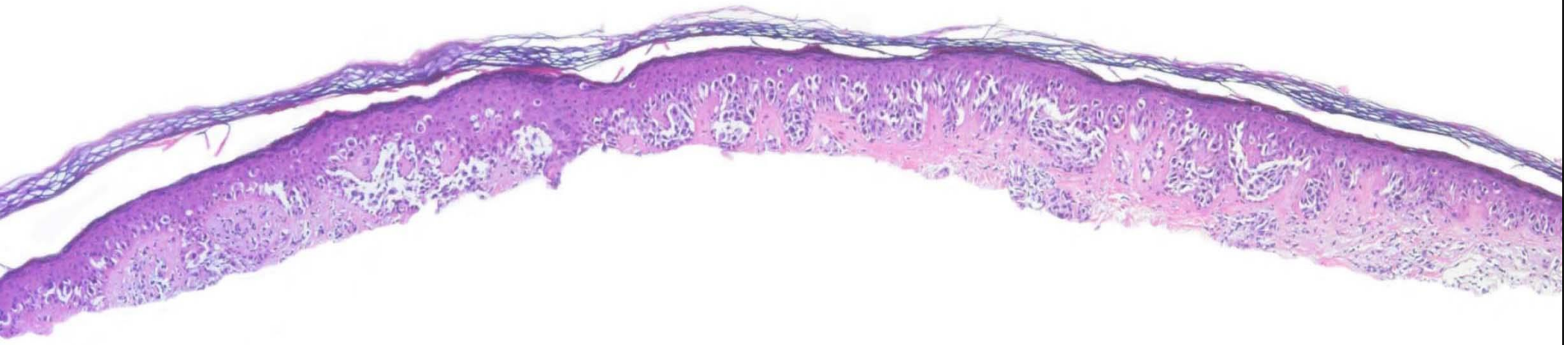
should be granted a make-up before being biopsied. If they are covered for two weeks and treated with some antimicrobial or antiphlogistic cream, problems in diagnosis can be evaded.

The Biggest Problem in Dermatology – and Ways to Resolve It



In sum, I hope to have conveyed the message why I consider minuscule biopsies to be the biggest problem in dermatology today. But there are ways to resolve it. Some require time, namely,

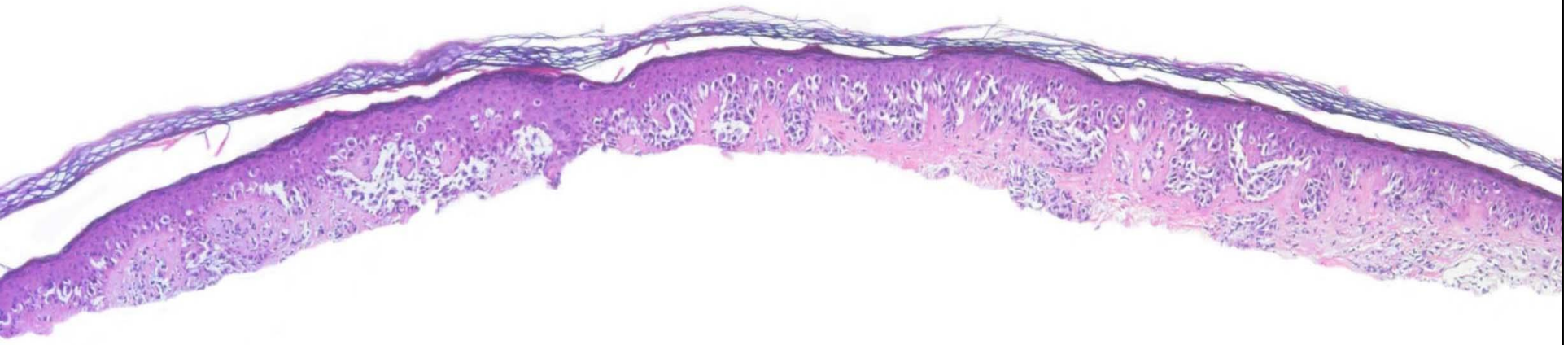
The Biggest Problem in Dermatology – and Ways to Resolve It



- greater awareness (congresses, medical journals, other public fora)
- greater emphasis on histopathology during residency training
- histopathologic study of one's own biopsy specimens
- appropriate remuneration for biopsies

efforts to increase the awareness of that problem through lectures at congresses, articles in medical journals, and other public fora, greater emphasis on histopathology during residency training, including histopathologic study of one's own biopsy specimens, and an appropriate remuneration for biopsies.
Others measures can be implemented quicker, even today, namely,

The Biggest Problem in Dermatology – and Ways to Resolve It



- greater awareness (congresses, medical journals, other public fora)
- greater emphasis on histopathology during residency training
- histopathologic study of one's own biopsy specimens
- appropriate remuneration for biopsies

- adjustment of biopsy technique (shave, punch, ellipse) to the individual lesion
- no minuscule biopsies
- pretreatment of irritated lesions
- indication of size of neoplasms in incisional biopsies
- communication of other relevant aspects
- transmission of clinical pictures

adjustment of one's own biopsy technique, such as shave, punch, or ellipse, to the individual lesion; abandonment of minuscule biopsies; pretreatment of irritated lesions; indication of the size of neoplasms in incisional biopsies; communication of other relevant aspects; and transmission of clinical pictures, the latter becoming increasingly important with a decreasing proportion of lesions sampled and increasing uncertainty in clinical diagnosis.

THE Sun
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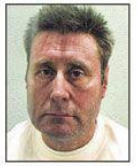


Still a lag . . Worboys

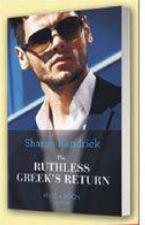
Victims halt cab rapist's release

By TOM WELLS

BLACK cab rapist John Worboys will stay in jail for at least another fortnight after victims won a last-ditch court order.

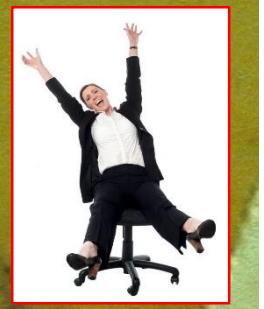
The Parole Board ruled the fiend, 60, should be freed. But a judge at London's High Court last

Continued on Page Two



International survey proves:

Dermatologists Are the Greatest !!



Biopsy Technique Sets Standards

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If all those measures could be put into action, I am confident that the headlines in newspapers would look much different!