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Considerations on Lateral and Deep Surgical Margins in Resected Skin Tumors[☆]



Consideraciones sobre los márgenes de resección lateral y profundo en las piezas de extirpación de tumores cutáneos

Dear Editor:

While the frequency of positive surgical margins in skin tumors is low,¹ recurrence is always an undesirable outcome whose likelihood we seek to reduce as much as possible. Thus, we have assessed the various factors that might play a role in recurrence, including the variant of the carcinoma,² the size and location of the tumor,³ and even the type of histopathology report issued.¹

Partially resected basal cell carcinomas have a 17% probability of recurring when only the lateral margins are affected, although this increases to 33% when deeper margins are affected.⁴ Therefore, it is important to determine which margins are positive, since this can affect the decision on whether to opt for surgery or periodic monitoring.⁵

In resection of skin tumors, histopathology of the surgical margins is essential if we are to avoid recurrences. Therefore, the surgical margin must be marked with ink and the specimen oriented in such a way as to provide information on the degree of involvement of the different margins.

In broad terms, margins are usually classified as lateral and deep. However, the difference between deep and lateral is feasible if the specimens are cut at right angles, as shown in Fig. 1A. Obviously, this is not the case in daily clinical practice, where specimens are taken with margins of differing angles (Fig. 1B). In this case, it is always clear that L1 is a lateral margin and D is a deep margin. But what about L2 and L3? Should they be classified as lateral or deep margins (D2 and D3)? Sometimes, we resect a tumor that is in contact with a margin at specific points in an ambiguous area between a lateral and a deep margin (Fig. 1C).

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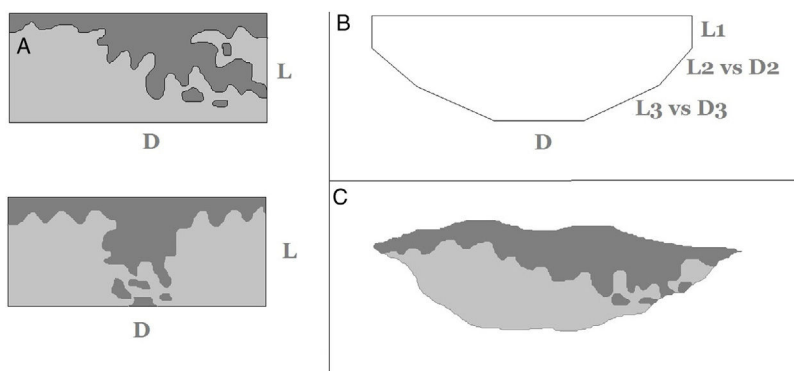


Figure 1 A, If the specimens are removed at right angles, then the difference between the lateral and deep margins is clear and problem-free. Similarly, it is easy to distinguish between the positive lateral margin (upper, L) and the positive deep margin (lower, D). B, The specimens removed usually have a lateral margin that angles inward to converge with the deep margin. The exact point at which the lateral margin becomes deep is open to debate. Thus, L1 clearly looks like a lateral margin and D clearly looks like a deep margin. However, should we identify L2 and L3 as lateral margins or as deep margins (D2, D3)? C, The positive margin in this biopsy image is difficult to define as lateral only, deep only, or a combination of both.

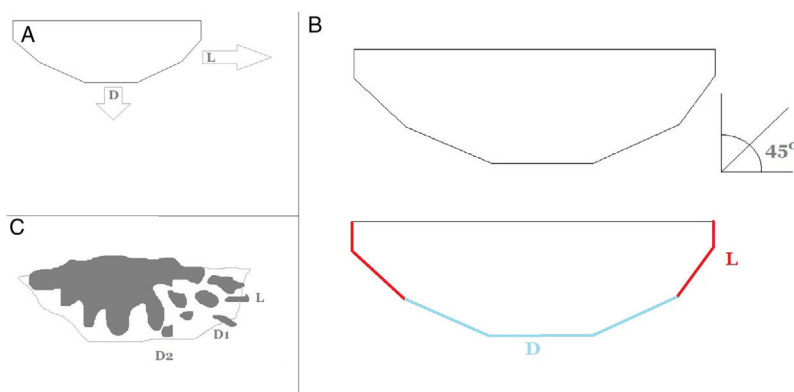


Figure 2 A, A report of a positive lateral margin (L) leads to an extension in the lateral direction. In contrast, a report of a positive deep margin (D) favors a deep extension of the margins. B, In the new model, we consider lateral margins to be those angled at more than 45° (red). Below this angle, the margin is considered deep (blue). C, According to the new model, D1 and D2 are considered deep margins. As D1 is positive, the specimen can be described as having positive lateral and deep margins. If D1 is considered a lateral margin, extension in a lateral direction only is insufficient.

In this sense, it is important to know the message being transmitted to the dermatologist by the histopathology department. A positive lateral margin is an indication to extend the resection mainly in the lateral direction. In contrast, a positive deep margin is an indication to go deeper into the newly extended area (Fig. 2A).

An Alternative Model

An alternative model for the assessment of surgical specimens involves an artificial division between the lateral and deep margins at the angle of inflection where the biopsy plane shifts from being more than 45° to less than 45° (Fig. 2B).

Fig. 2C shows the consequences of this approach in an example of a procedure requiring margins to be extended. In the new model, L is considered the lateral margin, whereas

D1 and D2 are considered deep margins. If, on the other hand, D1 is considered a positive lateral margin and extension of the lateral margin is favored, then this may not be sufficient.

Practical Examples

Fig. 3A shows the removal of a nodular basal cell carcinoma. The angle of the scalpel is raised somewhat vertically at the lateral margins. The margins are clearly marked, with the lateral margins in red and the deep margins in blue. The carcinoma does not affect the margin, although it does lie close to the lateral margin.

Fig. 3B, on the other hand, shows how a more angled resection may lead one of the lateral margins to be considered a deep margin (blue). Even if the carcinoma makes contact with the lateral margin (in blue), the guiding prin-

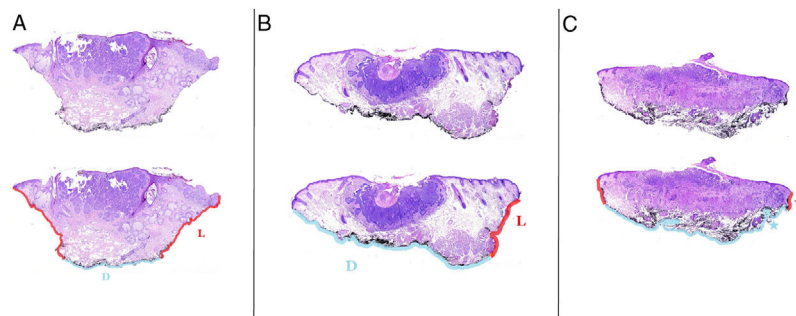


Figure 3 A, Resection of a nodular basal cell carcinoma with lateral margins (red) and deep margins (blue). B, The resection of basal cell carcinoma shows that the pronounced angle of the scalpel may lead a margin to shift from being considered “lateral” (L) to being considered “deep” (D). C, The removal of an infiltrative basal cell carcinoma shows 2 points at which the tumor moves towards the resection margin (stars). In one it is very close (red star) and has been considered a lateral margin. In the other (deep margin, blue star), the tumor comes into contact with the marking ink.

ciple should be that the deep margin is positive, and the correct approach is to extend the margin in this direction.

Lastly, Fig. 3C shows the removal of an infiltrative basal cell carcinoma. The tumor lies very close to the lateral margin (red star), although it makes occasional contact with the blue marking ink, which we have considered to be a deep margin (blue star).

In conclusion, this approach emphasizes that the angle of the initial resection shows where the residual tumor is more likely to lie in the case of a positive margin and facilitates understanding between the clinician and the pathologist, thus enabling better management of surgical specimens with positive margins.

Conclusion

Dermatologists treating basal cell carcinoma with positive lateral margins can decide to monitor the patient periodically without the need for additional procedures. However, when the deep margin is positive, all guidelines and protocols advise surgical extension.

The new model presented here better identifies those patients who require an additional surgical procedure.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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