Dermpath Quiz

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A 62-year-old male patient presented with severe dyspnea and multiple nodules on the skin of the scalp, hands, and back. The patient had a long history of heavy smoking. His past medical history was significant for advanced squamous cell carcinoma (SCC) of the lung and he was undergoing radiation therapy. A scalp nodule was excised and submitted for histopathological diagnosis.

Dermatopathological examination showed sheets of highly atypical basaloid cells in the epidermis and dermis [Figures 1 and 2].

In some areas abnormal cells infiltrated the epidermis [Figure 2a and b].

Immunostains with p63 and pan-cytokeratin were diffusely positive, a pattern that has been associated with primary cutaneous malignancies [Figure 3a and b].

The tumor most likely represents:

a. Primary adnexal carcinoma
b. Bowen's disease with invasive carcinoma
c. Epidermotropic metastasis
d. Keratoacanthoma
e. Primary cutaneous adenosquamous carcinoma

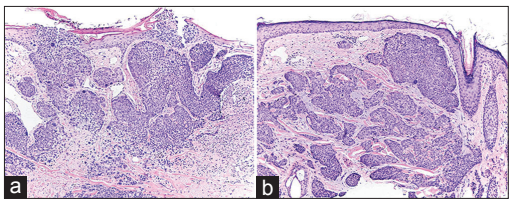

Figure 1: (a) Sheets of carcinoma cells in the dermis with foci of epidermotropic involvement, hematoxylin eosin, magnification ×100. (b) Infiltrative pattern of carcinoma cells in the dermis, hematoxylin eosin, magnification ×100

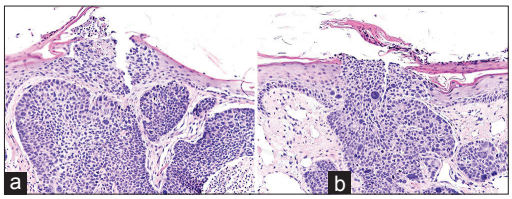

Figure 2: (a and b): Epidermotropic foci of highly abnormal carcinoma cells, hematoxylin eosin, magnification ×200

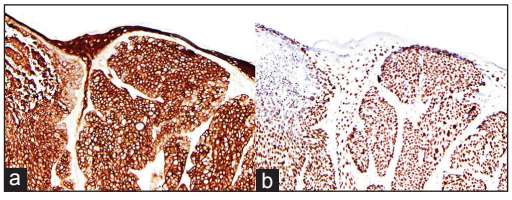

Figure 3: (a) Diffuse positivity of carcinoma with pan-CK immunostain, magnification ×200. (b) Diffuse positivity of carcinoma with p63 immunostain, magnification ×200

Access this article online

Website: www.idoj.in

DOI: 10.4103/2229-5178.110581

Quick Response Code:

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ANSWER: C

DISCUSSION

Areas of necrosis were present within the tumor, and served as an important clue to the diagnosis of epidermotropic metastasis. Metastases to the skin are relatively uncommon with a reported incidence of 10% among all cancer patients.[1] Epidermotropic metastases represent a group of malignancies with epidermal involvement that may mimic primary cutaneous neoplasms. The most frequent tumors which produce epidermotropic metastases include breast, cervical, and visceral SCC. We describe a case of epidermotropic metastasis of SCC of the lung, mimicking a primary cutaneous neoplasm histologically.

The first case of epidermotropic metastasis was reported by Mehregan and Pinkus in a case of breast carcinoma with epidermal involvement by neoplastic cells.[2] Incidence of epidermotropic metastasis is unknown because the literature is limited to case reports and small case series. Winzer and Kutzner reported that among 180,000 biopsy samples, they diagnosed 9 cases of epidermotropic metastases (among them metastases from the colon - 2, rectum - 2, breast - 2, uterus - 1, vulva - 1 and skin – 1). The authors, though, do not report during what time frame all the specimens were collected.

Epidermotropic metastases are known to arise from SCC from distant skin sites,[3] melanoma, porocarcinoma,[4] and Merkel cell carcinoma.[5] Metastases with epidermotropism from the internal organs are very rare and appear as occasional case reports involving adenocarcinoma of the rectum and lung,[2,3,6] breast,[7] urethra,[8] vulva,[9] cervix,[4,5] larynx,[7] prostatic carcinoma,[10] and bladder.[11] Clinically, epidermotropic metastases have no specific features and usually present as nodules or plaques. The clinical presentation may resemble Paget's disease, Bowen's disease, or herpes zoster infection, creating potential for confusion with a primary cutaneous neoplasm.[12,13] Histopathologically epidermotropic metastases show scattered cells in the epidermis or collections of malignant cells in the epidermis similar to the Borst-Jadassohn phenomenon.[3,4,6] Rare cases of epidermotropic metastases with malignant cells affecting full thickness of the epidermis, mimicking Bowen's disease, have been reported previously.[5,14]

In the report we describe an epidermotropic metastasis of SCC of the lung mimicking Bowen's disease with invasive carcinoma. Lung cancers rarely metastasize to skin, and among those that do, there is a higher frequency of adenocarcinomas and large cell carcinomas.[15] The incidence of metastasis of SCC of the lung does not exceed 1–2% among lung cancer metastases.[16] Several cases of SCC of the lung metastases to the skin have been reported in the literature,[17,18] but none of them demonstrated epidermotropism. Studies have shown that SCC of the lung typically has an immunohistochemical profile that is TTF-1-negative and p63/CK-positive that could be misinterpreted as representing a primary cutaneous malignancy.

Epidermotropic metastases should be differentiated from primary cancers, as management and prognosis differ greatly. Cases that resemble Bowen's disease can be challenging as invasive carcinoma in the setting of Bowen's disease is frequently anaplastic with an aggressive infiltrative growth pattern.[19-22] Clinical correlation plays a definitive role in the final diagnosis. In our patient, a histological diagnosis of metastatic disease was suspected based on the predominantly dermal location of the tumor, necrosis and only focal epidermal involvement. The pathology requisition form did not indicate concern for metastatic disease, but this suspicion was confirmed by additional clinical data obtained from the physician.

Metastasis of SCC of the lung to the skin has a grave prognosis with survival rates of about 6 months; therefore, prompt diagnosis is critical to allow proper care and counseling.

REFERENCES

1. Lookingbill DP, Spangler N, Helm KF. Cutaneous metastases in patients with metastatic carcinoma: A retrospective study of 4020 patients. J Am Acad Dermatol 1993;29:228-36.
2. Mehregan AH, Pinkus H. Intraepidermal epithelioma: A critical study. Cancer 1964;17:609-36.
3. Bauzá A, Redondo P, Idoate MA. Cutaneous zosteriform squamous cell carcinoma metastasis arising in an immunocompetent patient.Clin Exp Dermatol 2002;27:199-201.
4. Kolde G, Macher E, Grundmann E. Metastasizing eccrine porocarcinoma. Report of two cases with fatal outcome.Pathol Res Pract 1991;187:477-81.
5. Tsai YY, Hsiao CH, Chiu HC, Chen M, Tsai TF. CK7+/CK20- Merkel cell carcinoma presenting as inguinal subcutaneous nodules with subsequent epidermotropic metastasis. Acta Derm Venereol 2010;90:438-9.
6. Hurt MA, Hardarson S, Stadecker MJ, Santa Cruz DJ. Fibroepithelioma-like changes associated with anogenital epidermotropic mucinous carcinoma. Fibroepitheliomatous Paget phenomenon. J Cutan Pathol 1992;19:134-41.
7. Aguilar A, Schoendorff C, Lopez Redondo MJ, Ambrojo P, Requena L, Sanchez Yuz E. Epidermotropic metastases from internal carcinomas. Am J Dermatopathol 1991;13:452-8.
8. Degefu S, O'Quinn AG, Dhurandhar HN. Paget's disease of the vulva and urogenital malignancies: A case report and review of the literature. Gynecol Oncol 1986;25:347-54.
9. Winzer M, Kutzner H. Epidermotropic metastases from carcinoma: Presentation of eight cases. In: Eleventh Colloquium of the Internatinoal Society of Dermatopathology. Reims, France: 1990. p. 195.
10. Scerbenske JM, Lupton JP, Rodman OG.Prostatic carcinoma with metastasis to the nipple. J Am AcadDermatol 1988;18(2 Pt 1):391-3.
11. Turner AG. Pagetoid lesions associated with carcinoma of the bladder. J Urol 1980;123:124-6.
12. Ihm CW, Park SL, Sung SY, Lee IS. Bowenoid epidermotropic metastatic squamous cell carcinoma. J Cutan Pathol 1996;23:479-84.
13. Kato N, Aoyagi S, Sugawara H,Mayuzumi M. Zosteriform and epidermotropic metastatic primary cutaneous squamous cell carcinoma. Am J Dermatopathol 2001;23:216-20.
14. Sariya D, Ruth K, Adams-McDonnell R,Cusack C, Xu X, Elenitsas R,*et al*.

Clinicopathologic correlation of cutaneous metastases. Experience from a cancer center. Arch Dermatol 2007;143:613-20.
15. Schwartz RA. Cutaneous metastatic disease. J Am Acad Dermatol 1995;33(2 Pt 1):161-82.
16. Terashima T, Kanazawa M. Lung cancer with skin metastasis. Chest 1994;106:1448-50.
17. Loh L-cher, Raman S, Yusoff SM, Azura W, Yaacob W, Kumar S. Scalp metastasis from squamous cell carcinoma of lung. 2005;5:19-21.
18. Sim JH, Kim JE, Lee SH, Cho MK, Lee JS, Lee SY. Vulvar skin metastasis of lung squamous cell carcinoma. Ann Dermatol 2011;23(Suppl 2):S179-81.
19. Kao GF. Carcinoma arising in Bowen's disease. Arch Dermatol 1986;122:1124-6.
20. Sasaki M, Terada T, Nakanuma Y,Kono N, Kasahara Y, Watanabe K. Anorectal mucinous adenocarcinoma associated with latent perianal Paget's disease. Am J Gastroenterol 1990;85:199-202.
21. Bornkessel A, Weyers W, Elsner P, Ziemer M. Epidermotropic metastases from squamous cell carcinoma of the lower female genital tract mimicking primary Bowen' s carcinoma. Am J Dermatopathol 2006;28:220-2.
22. McKee PH, Hertogs KT. Endocervical adenocarcinoma and vulval Paget's disease: A significant association. Br J Dermatol 1980;103:443-8.

Cite this article as: Kazlousakaya V, Lal K, Franzone J, Elston D. Dermpath Quiz. Indian Dermatol Online J 2013;4:128-30.

Source of Support: Nil, **Conflict of Interest:** None declared.