

PostScript

CORRESPONDENCE

Are growth phases exclusive to cutaneous melanoma?

Two growth phases, radial and vertical, are commonly identified in cutaneous melanoma. In the radial growth phase, melanoma appears as an irregular plaque; cells may invade the dermis, but do not form a nodule. In the vertical growth phase, the lesion develops vertically, forming a true tumour.¹ Growth phases, generally reputed to be sequential stages of tumour development, are considered to be characteristic of skin melanoma and are not generally recognised in other tumours. However, analysing other skin neoplasms, some analogies can be noted. Squamous cell carcinoma originates in the epidermis as squamous cell carcinoma in situ, which shows a radial growth pattern, recognisable even when cells superficially infiltrate the papillary dermis; the direction of growth seems to change when cells form a nodule. In mammary and extramammary Paget's disease, atypical cells involve the epidermis, with the lesion showing a horizontal growth pattern; subsequently, cells form a dermal nodule. Porocarcinoma presents as a plaque or a nodule. In plaque-type porocarcinoma, cells are confined to the epidermis or infiltrate the dermis. Such a type of growth pattern, extending horizontally, represents a true radial phase (horizontal porocarcinomas). In nodular porocarcinoma, cells form a true tumour (vertical porocarcinomas).² Superficial basal cell carcinoma spreads horizontally on the skin and shows crescentic aggregations of cells, connected to the epidermal basal layer. Such a horizontal growth pattern can persist, with cells remaining confined to the underface of the epidermis. Sometimes, however, neoplastic islands, growing vertically, involve the reticular dermis, forming a nodule.³ The cited examples suggest that radial and vertical phases may occur in skin tumours other than melanoma. Moreover, carcinoma of the uterine cervix develops within the cervical epithelium, as cervical intraepithelial neoplasia (CIN I-III and carcinoma in situ); subsequently neoplastic cells invade the chorion, but do not

form a nodule (microinvasive carcinoma).⁴ This type of growth pattern is radial, even if the adjective may not appear to be correct because of the specific anatomy of the cervix, which presents a narrow and curved surface. Subsequently, cervical carcinoma invades deeply, forming a true tumour.⁴ Breast carcinoma may develop within the ductal epithelium (intraductal carcinoma); then, malignant cells may infiltrate the stroma in small foci (microinvasive carcinoma).⁵ Such a growth pattern, in the same direction as the duct, is analogous to the radial phase of cutaneous tumours. The difference is that in the skin neoplastic growth appears to be radial because a large planar surface is available, whereas in the breast neoplastic growth appears to be intraductal because the space in which the neoplastic process develops is curved, enclosing a lumen. Subsequently, the direction of growth seems to change, becoming perpendicular to the epithelium, analogous to the vertical phase of skin tumours, and a tumour nodule occurs. A similar growth pattern can also be seen in carcinomas of the lung, oesophagus, stomach, colon, and bladder. From this brief analysis, it emerges that growth phases, identified by Clark in melanoma, can be recognised in other cutaneous and extracutaneous tumours, in which however, the different anatomies of the sites of origin may produce different morphological expressions.

C Urso

Department of Pathology, Dermatopathology Section, Pigmented Skin Lesions, S. M. Annunziata Hospital, Via Antella 58, Antella, Florence I-50011, Italy; cylaur@tin.it

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- 5 Rosen PP. *Rosen's breast pathology*, 2nd ed. Philadelphia: Lippincott, Williams & Wilkins, 2001.

CALENDAR OF EVENTS

Full details of events to be included should be sent to Maggie Butler, Technical Editor JCP, The Cedars, 36 Queen Street, Castle Hedingham, Essex CO9 3HA, UK; email: maggie.butler2@btopenworld.com

Diagnostic Histopathology of the Breast

10-14 May 2004, Hammersmith Hospital (Imperial College Faculty of Medicine), London, UK

Further details: Wolfson Conference Centre, Hammersmith Hospital, Du Cane Road, London W12 0NN, UK. (Tel: +44 (0) 20 8383 3117/3227/3245; Fax: +44 (0) 20 8383 2428; Email: wcc@ic.ac.uk)

Practical Pulmonary Pathology

27-30 July, 2004, Brompton Hospital, London, UK

Further details: Professor B Corrin, Brompton Hospital, London SW3 6NP, UK. (Tel: +44 (0)20 7351 8420; Fax: +44 (0)20 7351 8293; Email: b.corrin@ic.ac.uk)

ACP Management Course for Pathologists, 2004

8-10 September 2004, Hardwick Hall Hotel, Sedgefield, County Durham, UK

Further details: V Wood, ACP Central Office, 189 Dyke Road, Hove, East Sussex BN3 1TL, UK. (Tel: +44 (0) 1273 775700; Fax: +44 (0) 1273 773303; Email: valerie@pathologists.org.uk)

Asian Pacific Association for study of the Liver Biennial Conference

11-15 December 2004, New Delhi, India

Further details: Dr V Malhotra (General Secretary) or Dr P Sakhuja (Treasurer and Pathology Coordinator), Room 325, Academic Block, Department of Pathology, GB Pant Hospital, New Delhi 110002, India. (Tel: +91 11 23237455; Email: welcome@apasindia2004.com; Website: www.apasindia2004.com)