SKIN PATHOLOGY ARTICLE

MELBOURNE PATHOLOGY

Information for Doctors

A lesion on the finger

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A 77 year old man presented with a 9 month history of swelling of the lateral nail fold of his right middle finger. The clinical differential diagnosis included a foreign body, fibroma or other tumour. A punch biopsy was submitted for histopathology.

The sections revealed a nodular proliferation of basaloid appearing cells displaying tubular and ductal differentiation (Figures 1 and 2). Some areas showed an inner layer of cuboidal to columnar cells with apical snouts and an outer layer of cuboidal cells. Solid (Figure 3) and focal pseudopapillary areas (Figure 4) were present with focal stromal hyalinsation. Mild cytologic atypia and mitotic activity was identified. Immunohistochemistry revealed a p40, p63, SMA and S100(weak) positive myoepithelial layer and diffuse AE1/AE3 positivity.
The overall features were consistent with a digital papillary adenocarcinoma.

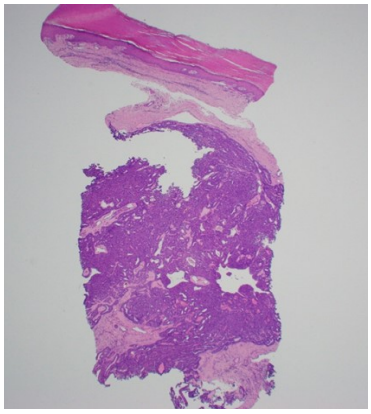

Figure 1 – Dermal based tumour with ductal/tubular differentiation (20X)

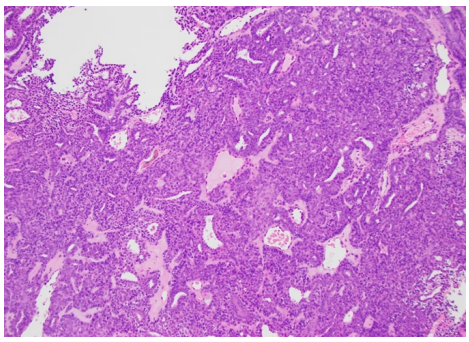

Figure 2 - Dermal based tumour with ductal/tubular differentiation, mild cytologic atypia evident (100X)

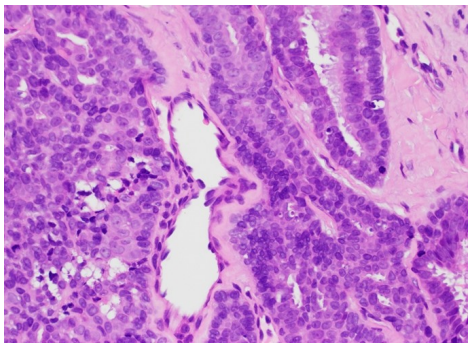

Figure 3 – Tubular (right of picture) and solid areas (left of picture), mitoses evident (400X)

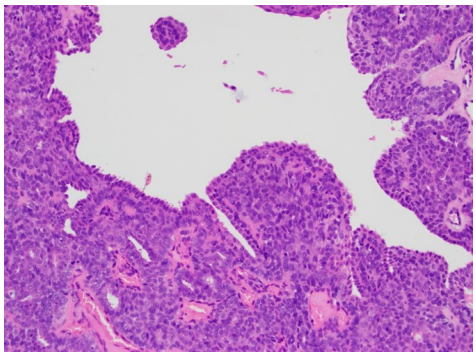

Figure 4 – Pseudopapillary area (200X)

Digital papillary adenocarcinoma is a malignant adnexal tumour usually found at acral sites. Historically, cases were divided into both "digital papillary adenoma" and "digital papillary adenocarcinoma", however both tumours showed recurrence rates of up to 50%, and metastases occurred in 3 cases that met criteria for an "adenoma" (overall metastatic rate 26-50%, to lung and lymph nodes up to 20 years after excision of the primary lesion). Thus the term adenoma was abandoned, with no benign counterpart. Complete excision or partial amputation decreases the recurrence rate to about 5% and also reduces the risk of metastasis.

The histological spectrum of digital papillary adenocarcinoma is relatively broad. Solid, cystic and papillary growth patterns are possible. Myoepithelial cells may be visualised. Cytological atypia may not be appreciated, but is most often mild to moderate. Squamous metaplasia and clear cell change may be present. The stroma may be paucicellular, hyalinised or myxomatous.

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Differential diagnosis

Due to the challenge of diagnosis, especially in lesions displaying no/minimal cytological atypia, it is recommended that complete excision be undertaken when partial biopsies of acral lesions show papillary changes. It also follows that extreme caution should be exercised before accepting the diagnosis of a benign adnexal neoplasm of the distal extremities.

Hidradenoma, tubular papillary adenoma, apocrine hidrocystoma and cystadenoma, papillary eccrine a denoma could be considered in the differential diagnosis of a cytologically banal lesion. Metastatic adenocarcinoma should be excluded for high grade lesions.

Acknowledgements

Thank you to A/Prof Chris Baker for providing the case and clinical history.

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Dr Tan graduated from the University of Melbourne in 2002 and attained Fellowship in the Royal Australasian College of Pathologists in 2011. He commenced his training in Anatomical Pathology as a Registrar at the Royal Darwin Hospital, and completed his training with Pathology Queensland.

Dr Tan joined Melbourne Pathology in 2011 and has since worked to develop expertise in dermatopathology. In 2014, Dr Tan was successful in the ICDP-UEMS Board Certifying Examination for Special Qualification in Dermatopathology.

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