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Authors: Speare, Richard, and Banks, David

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# A Trichoepithelioma in a Wild Eastern Grey Kangaroo (*Macropus giganteus*)

**Richard Speare**[1] **and David Banks,**[2] Graduate School of Tropical Veterinary Science, James Cook University of North Queensland, Townsville, Queensland 4811, Australia. [1] Present address: Kamuzu Central Hospital, P.O. Box 149, Lilongwe, Malawi, Central Africa. [2] Present address: C.S.I.R.O. Division of Animal Health, Koronivia Veterinary Laboratory, P.O. Box 77, Nausori, Fiji

ABSTRACT: The gross and microscopic pathology of a neoplastic skin lesion from the chest of a wild adult eastern grey kangaroo (*Macropus giganteus*) was consistent with the diagnosis of a trichoepithelioma. This was a benign lesion of the epithelial cells of the hair follicle and is the second type of skin neoplasm reported from macropodids.

*Key words:* Kangaroo, Macropodidae, *Macropus giganteus*, skin neoplasia, trichoepithelioma, pathology.

A tumor on the skin of the ventral chest in a mature male eastern grey kangaroo, *Macropus giganteus*, shot 60 km south of Charters Towers, Queensland (021°S, 147°E), was placed in 10% formalin and examined by routine histological techniques. The fixed lesion measured 3.5 × 3.0 × 1.3 cm and was sessile with its base slightly narrower than the elevated portion (Fig. 1). The surface of the lesion was hairless, blue-grey in color and had several irregular superficial ulcers with bases formed from black material that tended to flake. The consistency of the lesion was hard, and black well-circumscribed roughly circular areas occupied about two-thirds of one end of the cut surface. The remainder of the cut surface was white or cream in color. The mass was confined to the skin.

Histologically, the lesion consisted of multiple acini, many cystic, ranging in size from a macroscopically obvious 8 mm (Fig. 1) to a microscopic 12 μm (Fig. 2). Cysts were larger than the purely cellular acini and were formed from an outer cellular layer several cells thick, surrounding a keratinaceous central mass. Cells had small, ovoid nuclei with dense to reticular chromatin, and moderate to small amounts of colorless or slightly eosinophilic cytoplasm. Cellular boundaries were indistinct. Nuclei in the inner layers tended to elongate tangentially and transition from the cellular to the keratinaceous layer was abrupt. Keratohyalin granules were common at the transition zone. Pyknotic nuclear remnants were present in the keratinaceous central mass in some cysts. Multiple acini of the same cell type that formed the cellular layer of the cysts were present between the cysts, separated by a scant stroma of dense connective tissue. Basement membranes were present around all acini and cysts. Mitoses were few and nuclear pleomorphism was slight. Hairs were not seen. The keratinaceous central masses in areas that had appeared black on gross examination contained fine brown pigment which stained for melanin; melanin granules occurred diffusely in some cyst walls. Cells containing dense accumulations of melanin granules were present occasion-

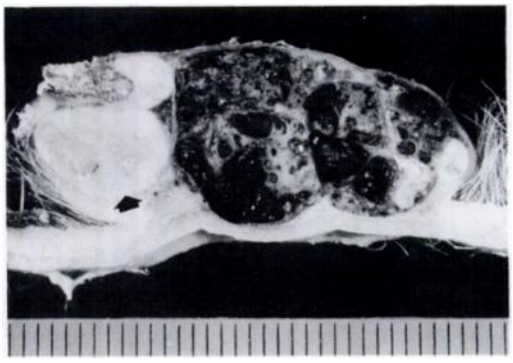

FIGURE 1. Vertical section through the preserved trichoepithelioma from a grey kangaroo. Arrow indicates the largest cyst (see text). Scale is in mm.

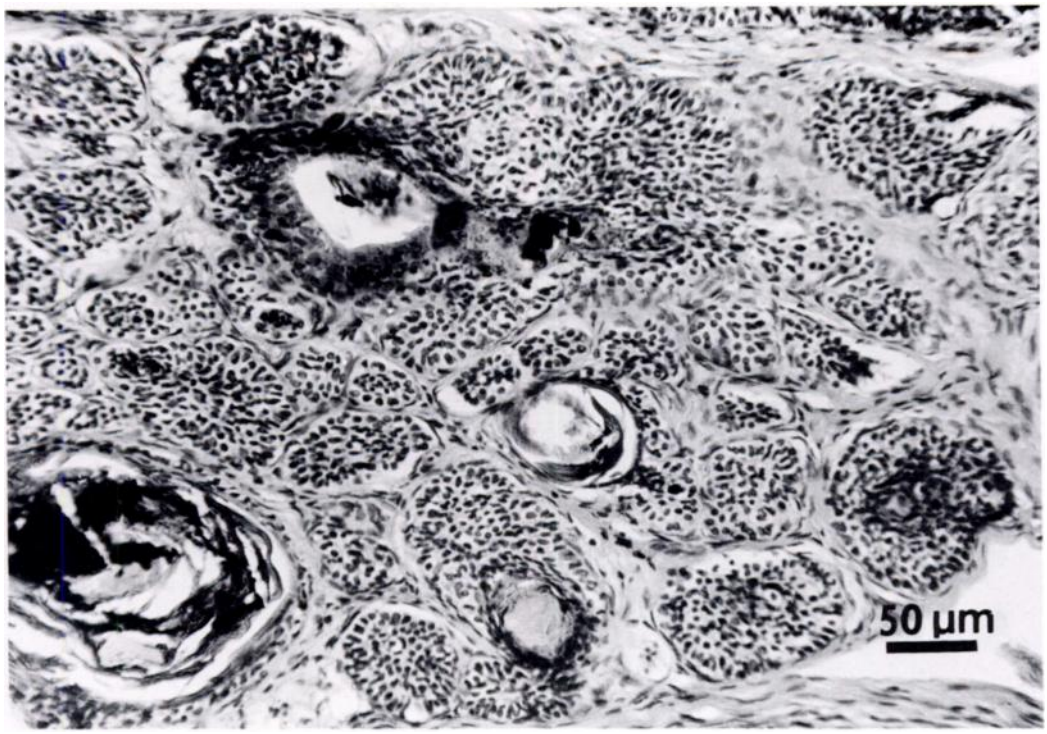


FIGURE 2. Trichoepithelioma from a grey kangaroo showing acini in a stroma of dense connective tissue. Some acini are cystic and contain keratin and melanin. H&E.

ally in outer layers of cyst walls and in the stroma.

The neoplasm was consistent with a trichoepithelioma on histological criteria (Moulton, 1978). Trichoepitheliomas are neoplasms of the epithelial cells of the wall of the hair follicle, and, as in this case, have no malignant tendency (Moulton, 1978).

In previous reports on neoplasms from macropodids the gastrointestinal tract was the most common site. The only skin neoplasm reported previously in macropodids is the papilloma caused by the macropodid pox virus. This was found in quokkas, *Setonix brachyurus* (Papadimitriou and Ashman, 1972); red kangaroos, *Macropus rufus* (Bagnall and Wilson, 1974; Presidente, 1978); western grey kangaroos, *Macropus fuliginosus* (Presidente, 1978); and eastern grey kangaroos (McKenzie et al., 1979). Trichoepitheliomas are not reported previously in an Australian marsupial. A representative histological section has been deposited as case A0188 in the Taronga Pathology Registry, Taronga Zoo, P.O. Box 20, Mosman, New South Wales, Australia.

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