

A case of caprine perineal squamous cell carcinoma in Botswana

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ABSTRACT

Squamous cell carcinoma of the perineal region of goats is described for the first time in Botswana. The tumour was irregularly shaped, cauliflower-like and ulcerated. The exposed surface had an unpleasant smell and was covered by a black keratinous exudate. Histopathologically the lesions were compatible with previous descriptions.

Key words: Botswana, carcinoma, goat, perineum, squamous cell.

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INTRODUCTION

Squamous cell carcinoma of the perineum is characterised by rapid growth and local invasion of surrounding tissues¹. The tumour occasionally metastasises, usually to the regional lymph nodes, which may become enlarged and indurated.

Squamous cell carcinoma is a fairly common tumour of domestic animals², more frequently observed on the eyelids and the eyeball in horses and cattle. This neoplasm also commonly accompanies papillomas of the udder and teats in Saanen dairy goats, and it is also common in female Angora goats in South Africa. In cattle, the initial lesion may be on the 3rd eyelid, the cornea or the eyelid. The tumour grows rapidly and shows considerable invasiveness, often metastasising to the regional lymph nodes.

In horses, the nictitating membrane is the most common site, with lesions occurring on the orbit and the lids. In Merino ewes, a high prevalence of vulvular squamous cell carcinoma has been attributed to chronic exposure to solar radiation of the skin with poor pigmentation or with sparse hair cover³.

This paper describes the pathological features of perineal squamous cell carcinoma in indigenous Tswana goats in Botswana.

CASE HISTORY

Seven indigenous Tswana goats affected by the neoplasm from 5 districts of Botswana were involved in the case study. The goats were from Maun (2), Palapye (2), and 1 each from the Ghanzi, Mahalapye and Serowe districts.

Clinico-pathological observations on the affected goats were made and recorded in the field by farmers and veterinary field staff; and in 2 cases, at the National Veterinary Laboratory (NVL) in Gaborone. Animals with advanced lesions showed loss of body condition and died within 3–5 weeks. The tumour extended to the muco-cutaneous junction of the vulva. Putrefaction occurred in the accumulated keratin, exudates and eroded surface of the tumour, emitting a foul smell. There was interference with defaecation and urination and the goats showed severe pain when urinating.

On gross examination of the affected perineum *in situ*, the excrescence was irregularly shaped, cauliflower-like and ulcerated (Fig. 1). The tumour covered the entire orifice of the anus and extended to

the dorsal aspect of the vulva. The exposed surface had an unpleasant smell and was covered by a black keratinous exudates oozing a purulent ulcerating mass (Fig. 2). On cut-section, the greyish white fibrous stroma infiltrated the anal sphincter muscles and dorsal aspect of the vulva. Regional lymph nodes were enlarged and indurated.

Tissue sections of the tumour mass were made and fixed in 10 % buffered formol saline for histopathological processing. After being embedded in paraffin wax, the blocks were cut into approximately 5µm thick sections and stained with haematoxylin and eosin (H&E) for microscopic examination. The histological lesions (Fig. 3) were compatible with previous descriptions³.

DISCUSSION

Squamous cell carcinomas are known to occur in farm animals such as cattle, sheep and goats^{3,4}. The causes of such neoplasms are not known but it has been suggested that predisposition to the tumour is probably hereditary⁴.

Squamous cell carcinomas in small ruminants have not previously been reported in Botswana. This paper records for the first time the occurrence of this neoplasm in goats in the country.



Fig. 1: A protruding squamous cell carcinoma of the perineum of a goat *in situ*.

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Fig. 2: Part of the perineal tumour mass exposed *in situ*.

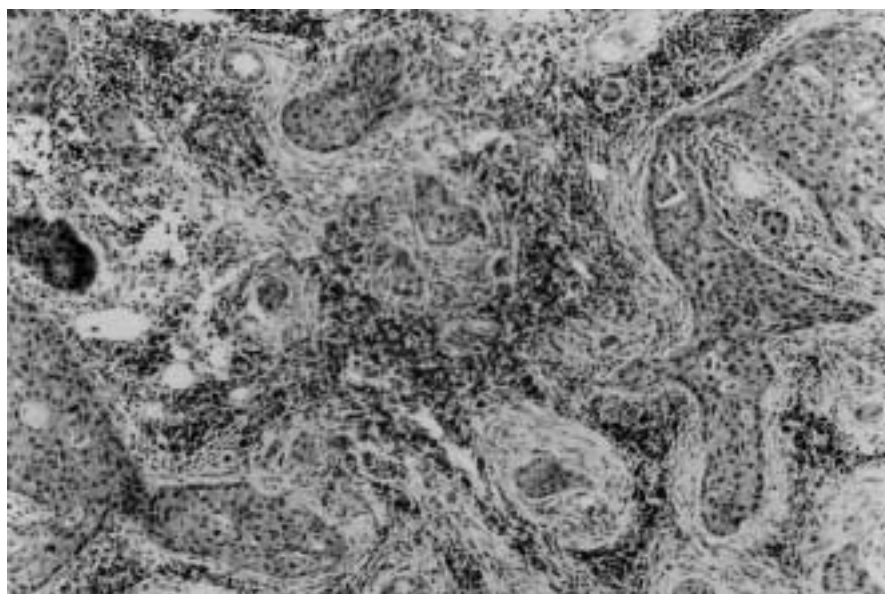


Fig. 3: Cords and clusters of neoplastic cells in close association with fibrous stroma (H&E, x100).

Reports from other countries have centred mainly on squamous cell carcinomas in sheep^{1,2,5,6}, but these neoplasms in goats are apparently rare.

Squamous cell carcinomas are most commonly found in adult or aged animals and there does not seem to be any breed predisposition³. Affected animals in the

present report were all adult indigenous Tswana goats without pigmentation of the perineal regions. Squamous cell carcinomas have been found in all areas of the skin of domestic animals, although sites of predilection have been identified in some species^{3,5}. Although squamous cell carcinomas do occur on other parts of the

goat, the perineum is the most common site⁴. In the present investigation, these neoplasms were only found on the perineal regions of the animals and might be attributed to long-term exposure of the perineal skin to solar radiation³.

High prevalence of squamous cell carcinomas in sheep in Australia and South Africa has been attributed to increased exposure of the perineum to solar radiation following tail docking to reduce the incidence of cutaneous myiasis^{1,5,6}. In view of the shape, size and posture of the tail of the goat, and lack of pigmentation of the underside of the tail, it is highly likely that solar radiation plays a role in the predisposition to perineal squamous cell carcinomas in Botswana and possibly elsewhere in arid or semiarid African countries. The epidemiology and geographical distribution of squamous cell carcinomas of goats and other farm animals in Botswana merits further investigation.

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