

AGRI-PRACTICE — ONCOLOGY

Buffaloes play an important role in the Egyptian economy. They appear to be more resistant to skin diseases than cattle, especially skin malignancy, which is extremely rare in buffaloes. The present report deals with an unusual, huge cutaneous spindle cell tumor in a buffalo. The mass was excised surgically and healing occurred successfully. According to the available literature, this type of huge skin spindle-cell tumor in a buffalo has not been recorded previously.

A CASE REPORT

Unusual Cutaneous Spindle-Cell Tumor in a Buffalo

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Case Report

A 7-year-old female water buffalo was presented to the clinic with a huge, lobulated swelling filling the triangular area between the tuber coxae, tuber sacrale, and ischiatic tuberosity (Figs. 1 & 2). This swelling had progressed over the last 6 years.

The mass was sessile and consisted mainly of two lobes (36 × 25 cm and 10 × 7 cm) with a wide area of attachment to the underlying tissue (20 × 18 cm). It was firm in consistency and covered with thickened, scaly skin which was mainly intact except for a few scattered areas of ulceration and supuration. The hidden skin under the borders of this swelling was hypopigmented. Needle aspiration of this swelling failed to yield a tissue specimen.

Surgery

The area was prepared for aseptic surgery. Rompun® (2% xylazine HCl solution, Bayer Agricultural Division, Shawnee Mission, KS) was used for sedation at a dose rate of 0.08 mg/kg bodyweight. The operation was performed under local infiltration

anesthesia with 4% procaine HCl solution. An elliptical cutaneous incision 30 cm long was made around the margins of the mass. Subcutaneous tissue was dissected and the mass was excised. The swelling was highly vascularized and copious hemorrhage was controlled by tampon, ligation, and/or crushing of the blood vessels. The skin defect was wide (about 22 × 20 cm) and healing occurred by second intention after use of continuous local dressing with antiseptic.

The mass weighed 6 kg and the cut section revealed grayish white tissue without cavity (Figs. 3 & 4). Specimens were taken for histopathological examination which showed bundles of fibroblasts and collagen fibers running in various directions. The neoplastic fibroblasts were observed to have spindle, oval, or irregular shape with large vesicular nuclei. Some neoplastic cells and collagen fibers formed wavy whorls (Fig. 5). Some sections showed the criteria of malignancy in the form of pleomorphism and presence of typical and atypical mitotic figures (Fig. 6). Necrotic foci and focal areas of hemorrhage were seen along the neoplasm.

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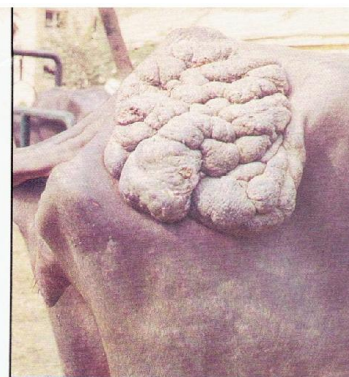


FIG. 1 — Lobulated swelling filling the angle between tuber coxae, ischiatic tuberosity, and tuber sacrale.



FIG. 4 — Cross-section of the mass with grayish white coloration.

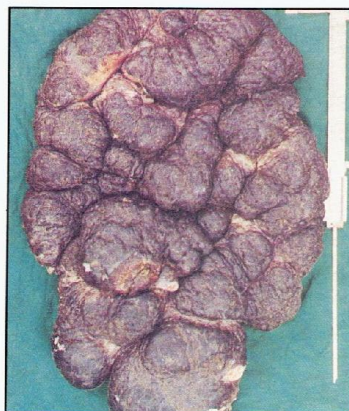


FIG. 3 — The mass after excision.

FIG. 2 — Close-up of Figure 1. Note the ulceration and supuration of some areas.

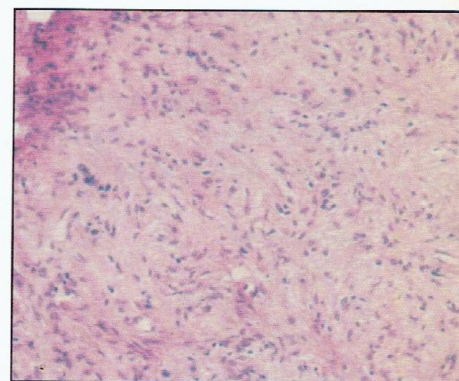
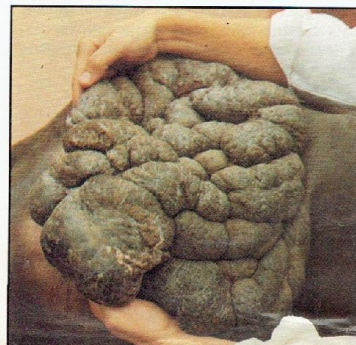
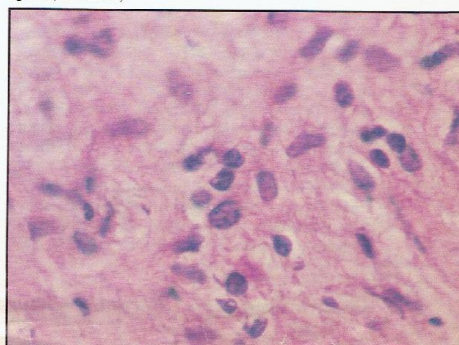


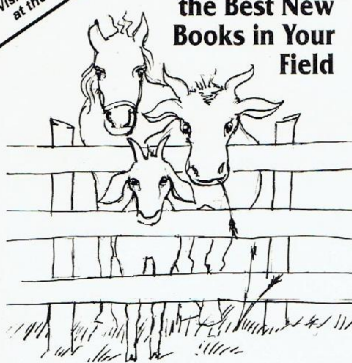
FIG. 5 — Photomicrograph of fibrosarcoma. Note the hypercellularity and wavy whorled appearance (H&E 150X).

FIG. 6 — A high power of the previous figure showing polymorphism, hyperchromatic typical and atypical mitotic figures (H&E 600X).



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UNUSUAL TUMOR IN A BUFFALO

Discussion

Skin neoplasia is extremely rare in buffaloes and the most frequent skin lesions are alopecia, mange, dermatitis, tail necrosis, and edematous skin disease.^{1,2} In a survey of 242 buffaloes in Egypt with different skin lesions, neoplasia could not be detected.² Cutaneous papilloma, squamous cell carcinoma, and fibromas are rarely recorded in buffaloes.¹

In cattle, the more common cutaneous neoplasms are papilloma, squamous cell carcinoma, fibroma, adenoma, melanoma, reticulum cell sarcoma, congenital neurofibromatosis, and mast cell tumor.³⁻⁵

In general, buffaloes are more resistant to skin lesions than cattle. In spite of cutaneous fibropapilloma being one of the common skin lesions in cattle, buffaloes which lived side by side with the affected cattle were not affected.⁶

Fibromas and fibrosarcomas are uncommon in large animals and arise from the dermal or subcutaneous fibroblasts.⁷ Fibromas are benign while fibrosarcomas are locally invasive with metastasis in 25% of the reported cases.⁸ Cutaneous fibrosarcoma is extremely rare in bovine animals. In a national survey of domestic animal tumors, only one skin fibrosarcoma was recorded in a bull among 720 bovine fibrosarcomas involving different tissues.⁵

The histopathological interpretation of this mass showed the picture of a very pleomorphic fibroma with some areas of malignant change. So it appears that there was an early stage of malignancy (fibrosarcoma) which is very rare in buffaloes. In either circumstance, this neoplasm could be classified as a spindle cell tumor.

Metastasis of the mass could not be found and recurrence had not taken place 3 months post-operatively, although it might be expected to recur over the long term.

Surgical intervention is essential in such cases. Despite the huge size of this sessile mass and the large skin defect, the area healed successfully by second intention. ■

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