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## SPONTANEOUS SQUAMOUS CELL CARCINOMA IN A FERRET

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**Abstract:** A female ferret (*Mustelo furo* L.) was killed because of a neoplasm that involved the oral cavity interfering with prehension and mastication of food. Histopathological examination of the neoplasm revealed a squamous cell carcinoma.

### INTRODUCTION

Spontaneous neoplasms appear to be rare in ferrets in captivity, as indicated by the small number of reported cases. Chesterman, et al.<sup>2</sup> reported a baso-squamous-sebaceous tumor and an ovarian thecoma among ferrets over 1 year of age in their colony. They described four neoplasms from ferrets submitted to them for evaluation. These cases included a rhabdomyosarcoma, a pancreatic adenocarcinoma, bilateral ovarian fibromas and an adrenal cortical adenoma. These neoplasms were found in ferrets ranging in age from approximately 18 months to 5 years. Symmers & Thompson<sup>5,6</sup> observed a baso-squamous-sebaceous carcinoma in one ferret that was older than 27 months and bilateral ovarian fibromas and multiple baso-squamous-sebaceous carcinomas in another ferret that was over 20 months of age. Engelbart et al.<sup>3</sup> described an undifferentiated squamous cell carcinoma of the skin of a 5-year-old female ferret.

### CASE REPORT

A neoplasm was found in a ferret that had been part of the Columbian Park Zoological exhibit, Lafayette, Indiana, for

3 years and otherwise its age and origin were not known. Progressive difficulty in the prehension and mastication of feed was ascribed to a rapidly growing mass that involved the face, the upper jaw and roof of the mouth. The ferret was killed and submitted for necropsy.

When skin over the tumor was dissected away, a hard, creamy-yellow, oval raised mass, 0.8 cm by 1.0 cm was exposed. The neoplasm involved the nasal septum and nasal turbinates on the right side (Fig. 1). Histopathologically, it consisted of proliferating prickle cells which appeared to arise from the squamous cells of the mucosa of the roof of the mouth. These cells invaded the bones of the nose and nasal turbinates and the ventral nasal cavity (Fig. 1) on both sides of the head. The neoplastic cells were arranged as isolated nests and as columns and cords of cells. Keratin pearls were present and the stroma was scanty to moderate in amount. Focal areas of necrosis, inflammation and ulceration involved the squamous mucosa of the mouth. No metastases were found.

The kidneys had mild to moderate interstitial nephritis characterized by focal mononuclear inflammatory cell infiltration, scarring of the interstitium and thickening of Bowman's membrane.

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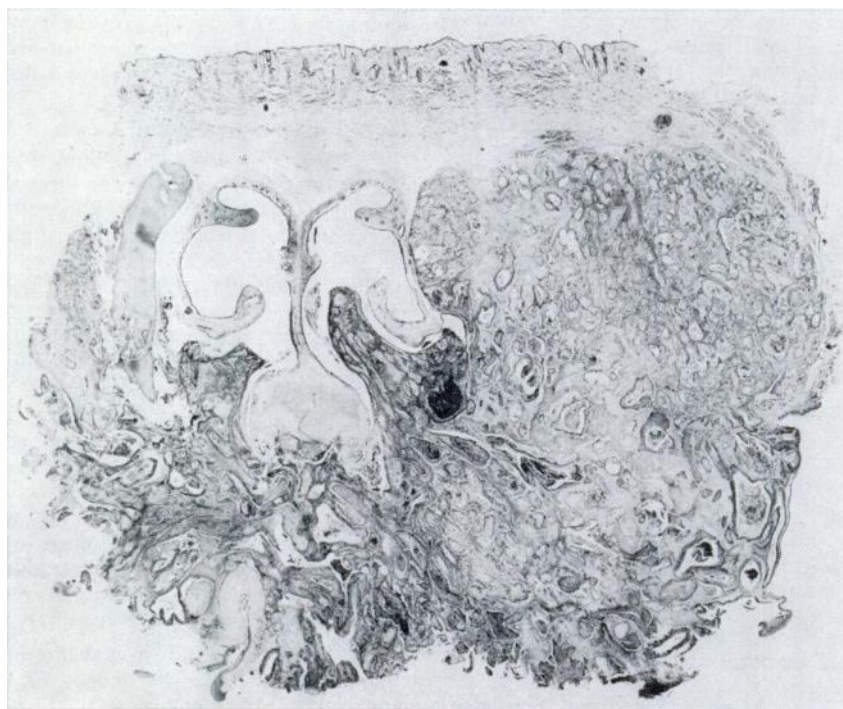
**COMMENT**

The few described neoplasms of ferrets do not represent a wide range of organ and tissue involvement, but both epithelial and mesenchymal tumors are described as well as benign and malignant forms. Of the reported neoplasms, those

arising from epithelial elements predominate and of those arising from epithelium, about half have involved the skin and adnexal tissues. The neoplasm of this report was similar to squamous cell carcinomas of the oral cavity as described in man by Evans<sup>4</sup> and in dogs by Brodley, et al.<sup>1</sup>

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**FIGURE 1.** Low magnification of nose showing intact normal skin with a tumor below, invading the nasal cavity and surrounding the turbinates. H&E X 6.3.

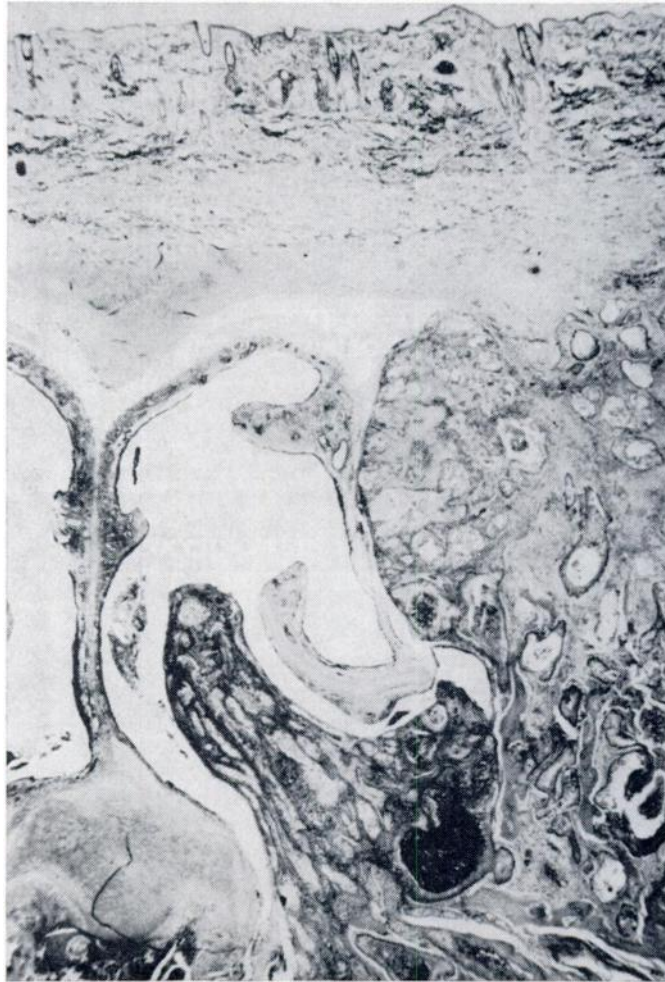


FIGURE 2. Higher magnification of neoplastic cells adjacent to and involving bone. There are two areas in the tumor filled with necrotic cellular debris and keratin. H&E X 140.

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