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ADENOCARCINOMA IN THE CONCHOFRONTAL SINUS OF AN ARABIAN MARE

(With 6 Fig.)

By

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ورم سرطانى غدى فى الجيب الجبهى الصيوانى فى فرسه عربيه

محمد بركات ، المرسوقى شتا

تم فحص فرسه عربيه عمرها ١٢ سنه فى مستشفى كلية الطب البيطرى جامعة القاهره مصابه بورم بالجيب الجبهى الصيوانى تم استئصال الورم جراحياً وتم كذلك اجراء الفحص الباثولوجى ووصفه حيث ظهرت الخلايا المميزه للورم السرطانى الغدى .

ويشبه الباحثان أن منشأ هذا الورم هو من النسيج الظاهرى للجيب المذكور .

SUMMARY

A 12 years old Arabian mare was presented to the clinic with a larg protruded conchofrontal sinus. Surgery was done. Radiography necropsy and histopathological findings were described. The prognostic characterstic cells of adenocarcinoma were described. The findings indicated that, adenocarcinoma probably arose from the epithelium of the conchofrontal sinus.

INTRODUCTION

A 12-years old Arabian mare was presented to Surgery clinic, Faculty of Veterinary Medicine, Cairo University, because of a protruding right and left conchofrontal sinus and bilateral mucopurulent nasal discharge, that was occasionally tinged with blood. The swelling had appeared since 3 months ago, through this peroid it was increasing in size. The center of the swelling felt soft under the skin (Fig. 1). Bilateral exophthalmos was present.

Surgery was performed with the horse under general anaesthesia and in left lateral recumbency. A longitudinal incision about 10 cm. long was made on the centre of the swelling. Lysis of the underlying cortical bone was present, and both the right and left conchofrontal sinus spontanously opened. A copious of yellowish, mucoid fluid (about 80 ml.) was removed. A large friable, lobulated infiltrating mass, brownish white in colour and weighing 750 gm. with invasions under the skin was encountered within the right and left conchofrontal sinus was removed in several pieces. Histologic examination was performed on the removed tissue.

Surgical drainage of the conchofrontal sinus was performed through the nostrils. penicillin-streptomycin (22,000 IU/kg.) was given for 9 days. Glucose-saline and electrolytes were given intravenously.

Radiography of the paranasal sinuses after surgery showed, interrupted lysis of cortical bone with osteoperiostitic reaction (Fig. 2). Loss of the trabecular pattern of the dorsal turbinate was also present.

The prognosis for survival was unfavourable and the general condition deteriorated. Ten days later, the horse was euthanatized. No metastases were found in lungs, liver and kidney. The pharangeal lymph nodes were apparently normal. Histologic examination of the lymph node was done. Grossly, examination of the sagittal sections of the skull revealed remnants of tumour tissues infiltrated both the righ and left

conchofrontal sinus. The tumour also appeared to be infiltrating the right and left periorbital region. Destruction and rarifaction of the frontal bone has been observed. The maxillary sinuses were free from tumour mass.

The histologic examination of the tumour revealed the neoplastic glandular epithelial cells arranged in sheets or acini. The cells showed pleomorphism, with excessive invasion of the stromal tissues (Figs. 3,4 and 5). The nucli appeared hyperchromatic with multiple mitosis (Fig. 6). No metastetic tumour was detected histologically in the lymph nodes.

DISCUSSION

Adenomas and adenocarcinomas in the horses are frequently reported *RUNNELLS* et al., *(1942); LAVACH* et al., *(1977) and JOSEPH* et al., *(1976).* Adenocarcinomas of the conchofrontal sinus occur infrequently in horses.

Generally, the origin of the paranasal sinuses tumours has been described by *NOAK (1956); COTCHIN (1959) and MOULTON (1978).* Adenocarcinoma arising from mucin glands of the paranasal sinuses is well recognized in man *(WILLIS, 1953)* and in dogs, *TROY (1947) and BEDFORD (1959).*

The adenocarcinoma reported in this study suggested to originate from the mucin glands of the epithelium of the conchofrontal sinus. Similar picture have been described in man, *WILLIS (1953)* and in dogs *BEDFORD (1959).*

The histopathologic findings, the protruded conchofrontal sinus, local destruction of bone, the arrangement of tumour cells in glandular or aciner structures, pleomorphism and mitosis have been shown to have prognostic characters for adenocarcinoma. This indicated that, the neoplasm probably arose from the epithelium of the conchofrontal sinus.

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REFERENCES

Bedford, J.M. (1959): Adenocarcinoma of the maxillary nasal sinus in the dog. Vet. Rec. 72(44): 921-922.

Cotchin,E. (1959): Spontaneous neoplasms of the upper respirotory tract in animals. In cancer of Nasopharynx. Edited by C.S. Muir and K. Shanmugaratoam. Medical examination publishing Company. Inc., Flushing N.Y., 203-259.

Joseph, R.J.; Roger, B.T.; Kyzer, J.R. andhightower, D. (1976): Thyroid carcinoma in a horse. J.A.V.M.A., 168 (7): 610.

Lavach, J.D. and Severin, G.A. (1977): Neoplasia of the equine eye. Adnexa and orbit. A review of 68 cases. J.A.V.M.A., 170: 202-203.

Moulton, J.E. (1978): Tumours in Domestic animals. University of California Press, Berkely and Los Angles, CA.PP. 211-212.

Noak, P (1956): Die Geschulste der oberen Atmungeswege bei den Haussaugetieren (Teile I,II). Wiss. Z. Humbodt-Univ. 6, 293-314.

Runnells, R.A., and Benbrook, E.A. (1942): Epithelial tumours of horses. Am. J.Vet. Res., 3, 176-179.

LEGENDS

Fig.1: Appearance of protruded frontal sinus swelling in an Arabian mare.

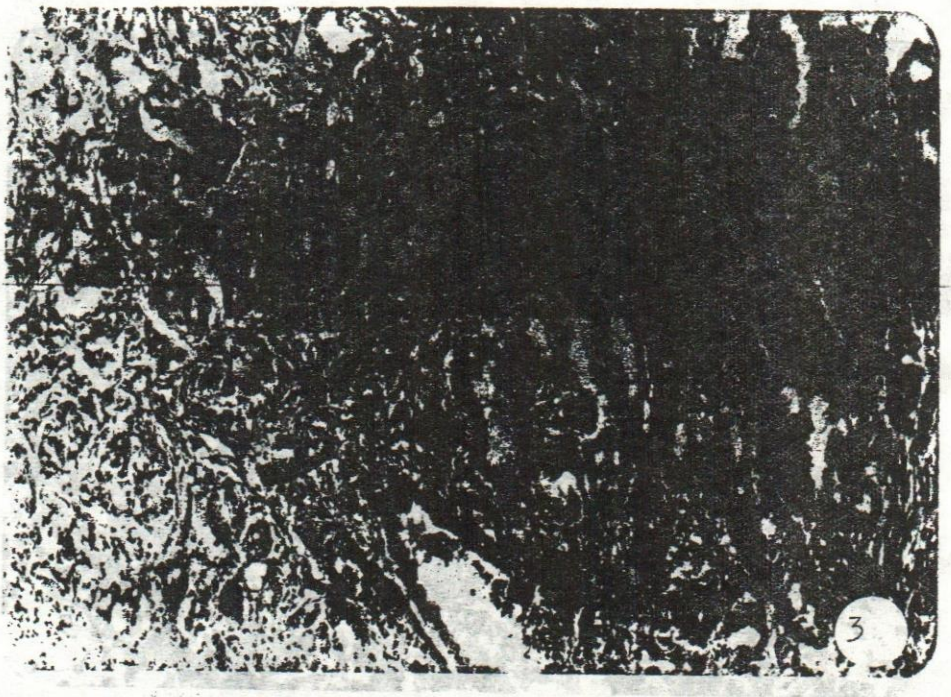
Fig.2: Lateral radiograph of the frontal sinus. Arrows show cortical bone lysis, with osteoperiostesis of the frontal bone.

Fig.3: Photomicrograph of frontal sinus adenocarcinoma. The tumor arranged in acinus like structures. Arrow, H & E. stain.X 10.

Fig.4: The stromal invesion with neoplastic cells. H & E. stain.X 40.

Fig.5: The stroma is formed of sheath of glandular epithelium. H & E stain.X 40.

Fig.6: The tumor cells showed pleomorphism and nuclear hyperchromatic. H & E. stain. X 40.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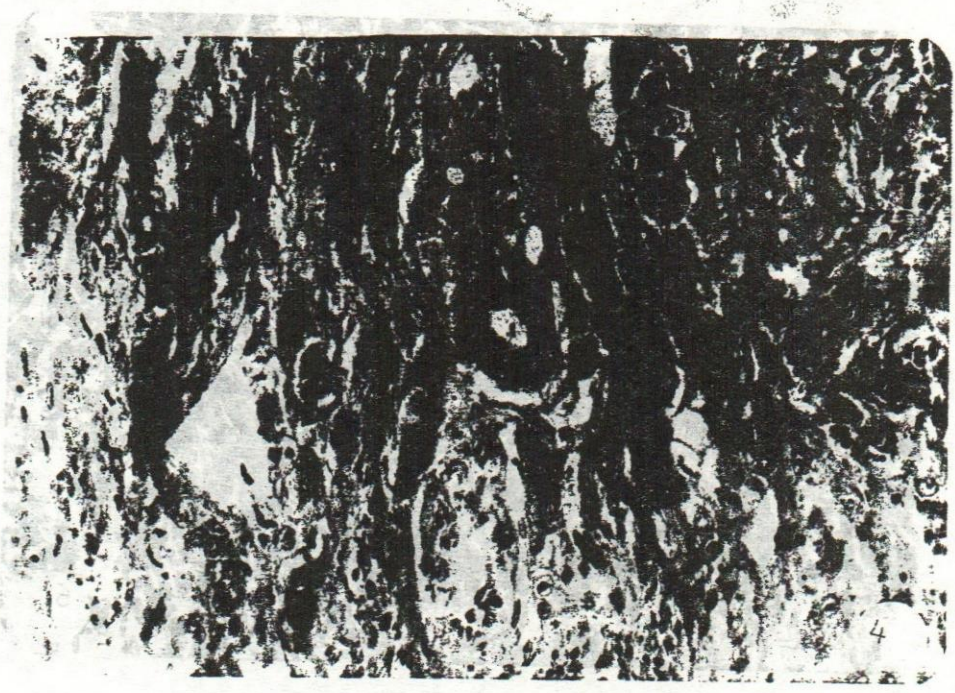
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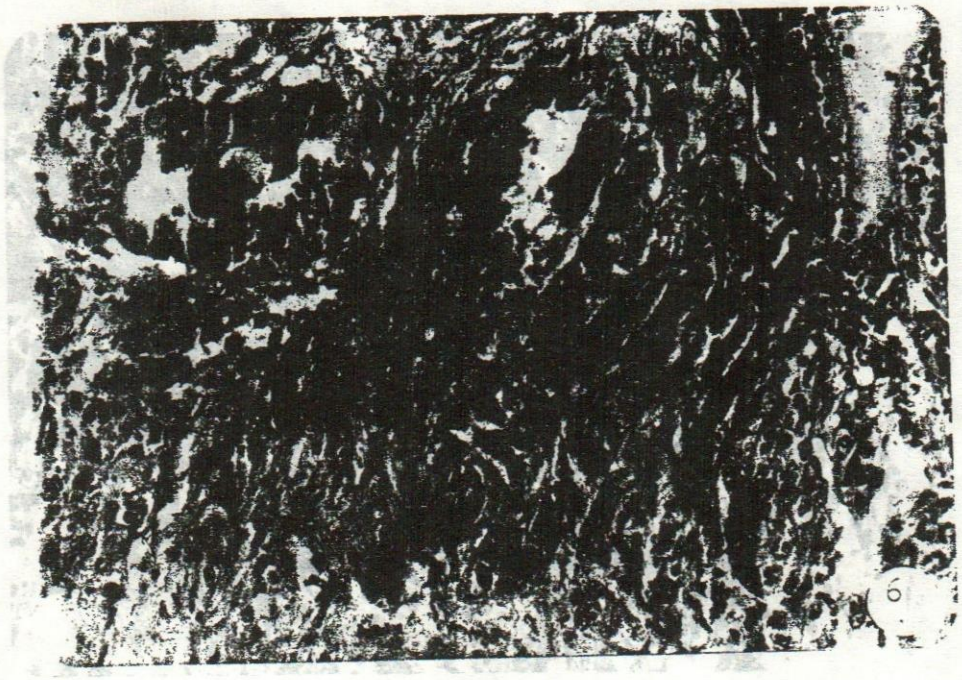
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