

Dept. of Surgery,  
Fac. Vet. Med., Assiut University, Egypt.  
Head of Dept. Prof. Dr. M. Nassef.

## MANAGEMENT OF SOME SWELLINGS IN THE HEAD AND NECK REGIONS IN RUMINANTS

(With 14 Figures)

By

H.A. YOUSSEF

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### التدخل الجراحي لعلاج بعض الأورام في منطقة الرأس والرقبة في المجترات

هاريون على يوسف

لقد تم التدخل الجراحي لعلاج الأورام في منطقة الرقبة والرأس في عدد ٤٦ حيوان وقد كانت هذه الأورام بسبب خراجات أو حويصلات أو تمدد احتباسي لقناة الغدة اللعابية النكفية أو أورام حميدة. وقد كان الحرص الشديد واجباً ليس فقط في التشخيص المقارن ولكن أيضاً عند فتح وتفريغ الخراجات في المنطقة النكفية وكذلك الملاصقة للوريد الوداجي وذلك لتفادي إصابة الغدة اللعابية النكفية وكذلك الأوعية الدموية الكبيرة والأعصاب. وقد كان الإستئصال الكامل علاجاً جزرياً لبعض الخراجات مثل خراجات الغدة البلغمية. هذا ويجب الأخذ في الاعتبار التمدد الاحتباسي لقناة الغدة اللعابية النكفية عند جراحة الأورام على الوجه في الجاموس. وقد كان ربط قناة الغدة اللعابية النكفية وحقن صبغة اليود في اتجاه الغدة بعد إزالة الجزء المتمدن من القناة علاجاً عملياً لتلك الحالات في الجاموس. وكان الإستئصال الكامل علاجاً للحويصلات في مقدمة الرقبة في الماعز كذلك كان استئصال الورم الدهني الحميد سهلاً حيث لم يكن ملتصقاً بالجلد أو بالأنسجة الأخرى.

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## SUMMARY

The swellings in the head and neck regions were dealt with in 46 ruminant animals (4 buffaloes, 8 cattle, 9 camels, 15 sheep and 10 goats). These swellings were abscesses, cysts, ectasia of the parotid duct and neoplasms. Special attention was needed not only in the differential diagnosis but also for opening and evacuation of the large abscesses in the parotid region and those in close association with the jugular vein to avoid injury of the parotid salivary glands and the large blood vessels. Total excision was a radical approach for some abscesses such as those of caseous lymphadenitis. Ectasia of the duct of the parotid salivary gland is to be considered while dealing with the huge swellings on the sides of the face in buffaloes. The retrograde injection of tincture of iodine and ligation of the duct after excision of the dilated duct could be considered a practical intervention for treatment of ectasia of the parotid duct. Total excision was the treatment of choice for the epithelial cysts in the cranial cervical region in goats. Lipoma was detected caudo-dorsally on the head; between the ears of one-year-old cattle calf. The swelling was more or less pedunculated discoid mass. Excision of the lipoma was easy where it was not attached to the skin or the underlying tissues.

## INTRODUCTION

Many swellings in the head and neck regions were described by some authors (RUNNELLS *et al.*, 1965; JUBB & KENNEDY, 1970; BAILEY, 1972; BELSCHNER & EDWARDS, 1984; DIETZ & WISNER, 1984; JENNINGS, 1984; YOUSSEF *et al.*, 1987; AHMED 1988; MISK *et al.*, 1991 and YOUSSEF *et al.*, 1992). While the clinical findings were sufficient for diagnosis of the swellings in the head and neck regions in ruminants in most cases, the histopathological and laboratory examination were indicated in some other cases (RUNNELLS *et al.*, 1965; BAILEY, 1972; YOUSSEF, 1987 and AHMED, 1988).

The present study was designed to describe some of the prevalent swellings in the head and neck regions in ruminants, with special reference to the differential diagnosis and the surgical management for the different cases especially those in close vicinity to vital structures.



### MATERIAL and METHODS

The swellings in the head and neck regions were dealt with in 4 buffaloes, 8 cattle, 9 camels, 15 sheep and 10 goats. The surgical intervention to excise some swellings was done under effect of local infiltration analgesia after tranquillization of the animals with Rompun (Bayer). The local infiltration analgesia was performed using procaine Hcl solution as 2% for large animals and 1% for small animals. Rompun was used intramuscularly in a dose rate of 0.1 mg/Kg for cattle and buffaloes and 0.2 mg/Kg for sheep and goats.

While most abscesses were opened and evacuated as usual, some ones were totally excised. The cysts and neoplasms were excised. In case of ectasia of the parotid duct, the dilated duct wall was excised after the retrograde injection of tincture of iodine and ligation of the remaining duct stumps.

### RESULTS

While ectasia of the parotid duct was diagnosed in only one buffalo, the abscesses were diagnosed in all ruminants (3 buffaloes, 7 cattle, 9 camels, 15 sheep and 5 goats). Cysts were dealt with in 5 goats and lipoma in one cattle calf.

Ectasia of the parotid salivary duct was detected as a soft swelling (14 x 12 x 8 cm) on the left side of the face of a seven-year-old buffalo (Fig. 1). Exploratory puncture gave thick, viscid saliva. The wall of the dilated duct was greatly thickened (Fig. 2). It was dissected from the underlying tissues carefully. The stump of the cranial part of the duct was closed with inverting sutures. The caudal stump was double ligated after retrograde injection of 10 ml of tincture of iodine toward the gland. Swelling of the parotid region began one day postoperatively and after one week it began to decrease in size and appeared more or less normal within 4 weeks.

Most abscesses of sheep were in the caudal cervical region (11 cases) and took the typical picture of caseous lymphadenitis (Fig. 3, 4, 5 & 6). Some abscesses in cattle and goats were localized in the parotid region in close association with the parotid salivary gland region (Fig. 7 & 8). Abscesses in close association with the jugular vein on the lateral aspect of the neck were also recorded in buffaloes, camels and cattle (Fig. 9, 10 & 11). In the caudal cervical region abscesses were also dealt with in camels (Fig. 12). Many abscesses in sheep were circumscribed and with thick fibrous capsule. These abscesses were totally excised (9 cases) and first intention healing was obtained. When more than one abscesses were detected near to each other only one incision was enough for excision of the abscesses. The abscesses in the parotid region were opened with great care where the skin was



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incised in the most caudo-ventral part; away from the parotid salivary gland. Then with the gloved index finger or closed blunt scissors, the abscesses were opened where no injury for the gland did happen in any case. Also the abscesses in the lateral side of the neck near the jugular vein were treated in the same manner.

Cysts were circumscribed, spherical in shape and were localised in the cranial cervical region (Fig. 13). Total excision of the cysts was easy where no strong adhesions to the surrounding structures were detected. Lipoma was detected as soft discoid swelling caudo-dorsally on the head of one-year-old cattle calf (Fig. 14). During excision, the tumour was found to be a white discoid mass of fat which was not attached to the skin or underlying tissues. Microscopically, the swelling was found to be composed of mature fat cells.

## DISCUSSION

While many of the swellings in the head and neck regions may be due to abscess some may be due other causes such as ectasia of the salivary ducts, cysts and neoplasms. The swellings on the lateral aspect of the face may be due to not only ectasia of the parotid duct, but also due to actinomycotic tumours, bony exostosis, abscesses and bulging of the cheek by epulis or accumulation of food as a result of sharp teeth. The swellings in the parotid region may be due to neoplasms such as lymphosarcoma, or cysts such as salivary cysts, branchial cyst, or other epithelial cysts in addition to the abscess formation (JUBB and KENNEDY, 1970; BAILEY, 1972; DIETZ & WISNER, 1984; YOUSSEF *et al.*, 1987; AHMED, 1988; YOUSSEF and AHMED, 1992 and YOUSSEF *et al.*, 1992). Therefore the differential diagnosis is of extreme importance before surgical intervention.

Destruction of the parotid salivary gland after excision of the dilated duct in cases of ectasia of the duct by its ligation after the retrograde injection of irritant materials may be considered a practical treatment for such cases (FRANK, 1961 and AHMED, 1988). Although the parotid salivary gland occupies nearly the entire parotideal region in ruminant (EL-GAAFARY, 1964; EL-HAGRI, 1967; MAY, 1970 and AHMED, 1988), the abscesses in that region can be drained caudo-ventral to the gland margin and handled with care without causing injuries for the glandular tissues. In spite of opening and draining were done for many abscesses, the circumscribed ones with strong fibrous capsules were totally excised and first intention healing was obtained.



Total excision was indicated for the epithelial cysts, otherwise recurrence might be expected (AHMED 1988 and YOUSSEF *et al.*, 1992).

Lipoma is occasionally seen in the dermis or subcutis and comprises a small percentage of bovine neoplasms. Total excision of the neoplasm is indicated where it is not attached to the skin or underlying tissues.

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Fig. (1): Ectasia of the parotid salivary gland duct.

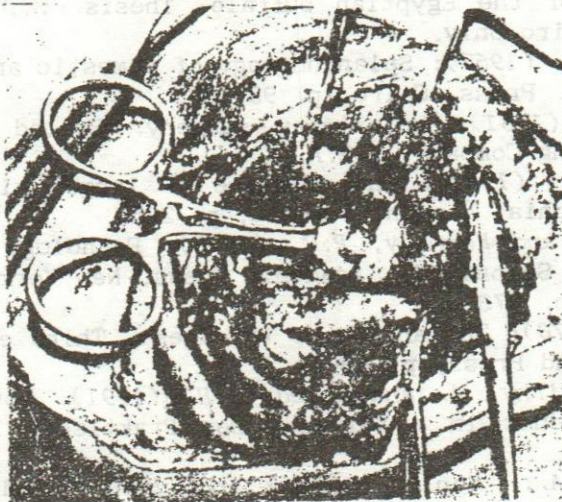


Fig. (2): The thickened dilated wall of the parotid duct after its opening. The haemostat is introduced in the duct toward the gland.



Fig. (3): Two large circumscribed abscesses in a sheep.

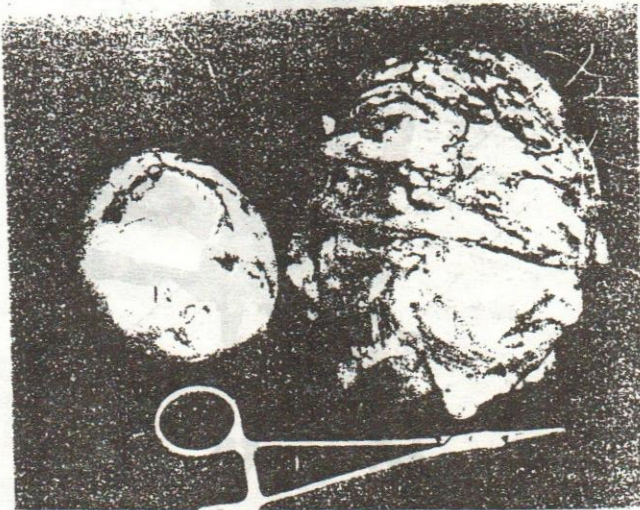


Fig. (4): The abscesses after total excision.



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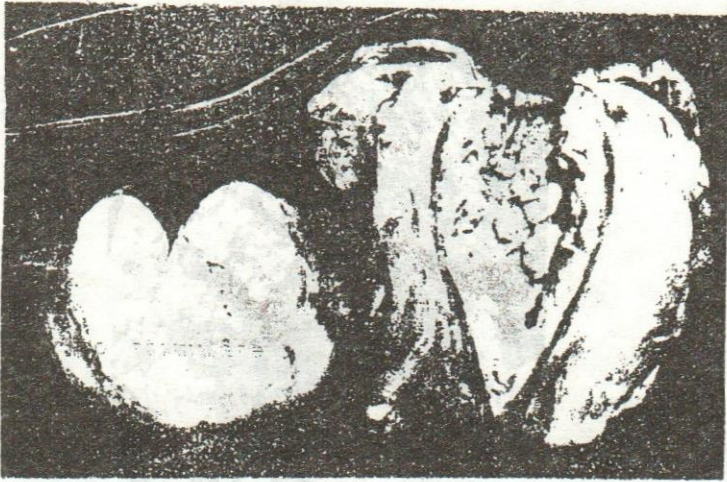


Fig. (5): The abscesses after transection. Lamellation of pus and thickening of the capsule are evident.

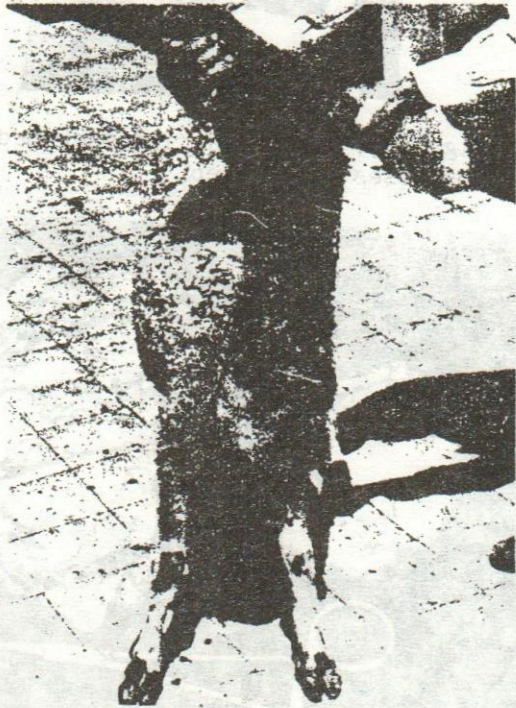


Fig. (6): The case in fig. (3), one week postoperatively.





Fig. (7): Abscess in the parotid region of a cow.

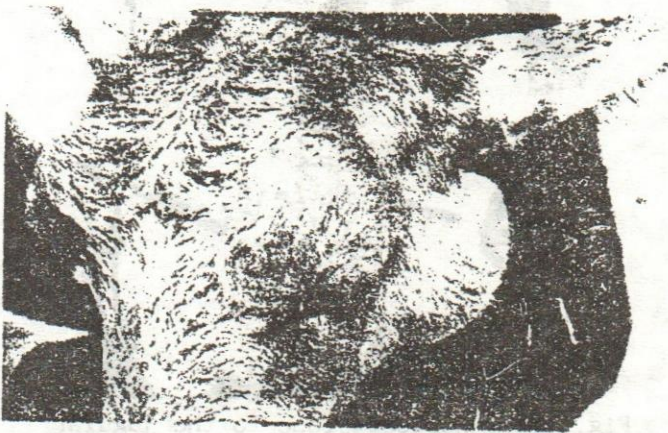


Fig. (8): Abscess in the parotid region of a goat.



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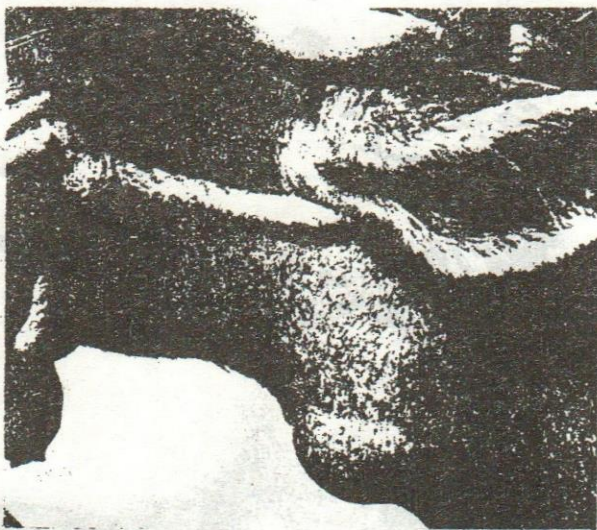


Fig.(9): Abscess in close vicinity of the jugular vein in a buffalo.



Fig. (10): Abscess close to the jugular vein in a camel.



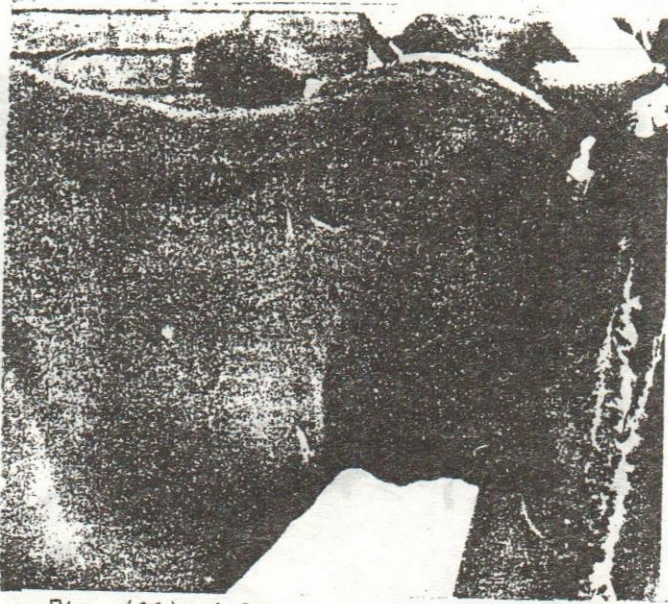


Fig. (11): A large abscess close to the jugular vein in a cow.

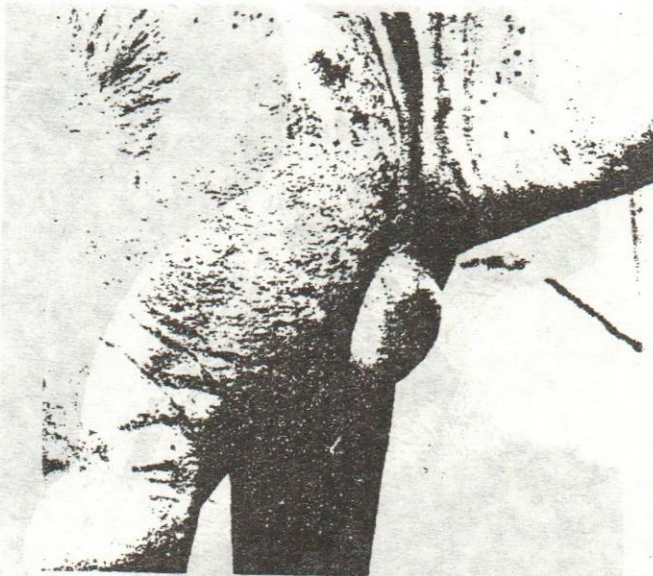


Fig. (12): Abscess in the caudal cervical region in a camel.



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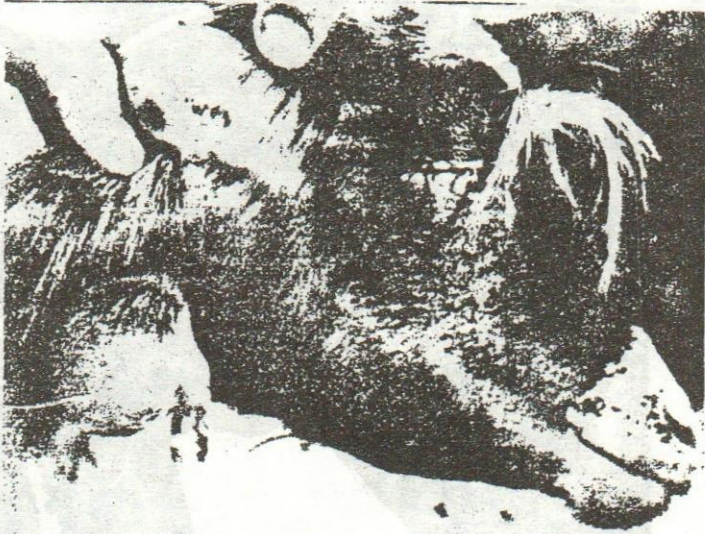


Fig. (13): Cyst in the cranial cervical region of a goat.

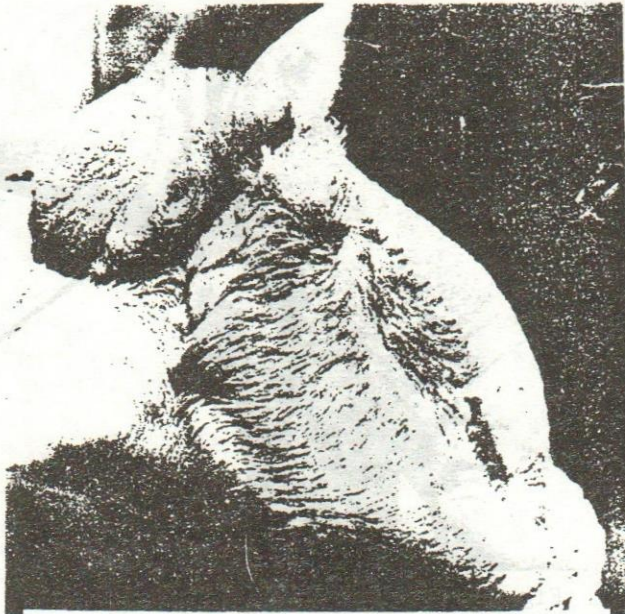


Fig. (14): Lipoma on the caudo-dorsal aspect of the head in a cattle calf.