

قسم طب الحيوان والجراحة
كلية الطب البيطرى - جامعة الملك فيصل - المملكة العربية السعودية
رئيس القسم : د . ا . د / سيد العمروسى

عسر الهضم الرضى وغير الرضى فى المجترات الصغيرة

سيد العمروسى ، هانى جوهر ، مجدى حافظ

استهدفت الدراسة تحديد سبب عسر الهضم فى الاغنام والماعز المترددة على مستشفى كلية الطب البيطرى - جامعة الملك فيصل بالمملكة العربية السعودية بالاضافة الى تقدير مستوى بعض مكونات الدم فى هذه الحالات وفحص سائل الكرش لهذه الحيوانات وقد ثبت ان الماعز اكثر تأثراً للرومبون عن الاغنام وقد تم تصنيف مسببات عسر الهضم الى مسببات حادة وغير حادة حيث تمثلت الاولى فى المسامير والدبابيس وقطع من السلك فى حين ان الاجسام الغير حادة كانت عبارة عن اكياس بلاستيك وقطع من القماش وكريات من الشعر وحببيات الرمل وتراوح وزن الاجسام الغير حادة بين ٢٠٠ جرام الى ٥٤ كيلو جرام وظهر تحليل الدم ارتفاع العدد الكلى لكريات الدم البيضاء مع زيادة طفيفة فى نسبة الخلايا المتعادلة واخرى ملحوظة فى نسبة الخلايا الحمضية ووضح تحليل مصل الدم انخفاض ملحوظ فى مستوى البروتين الكلى فى حين أن باقى المكونات لم تتغير بدرجة ملحوظة .

1870
The first of the year
was a very dry one
and the crops were
very poor.

The second of the year
was a very wet one
and the crops were
very good.

The third of the year
was a very dry one
and the crops were
very poor.

The fourth of the year
was a very wet one
and the crops were
very good.

The fifth of the year
was a very dry one
and the crops were
very poor.

The sixth of the year
was a very wet one
and the crops were
very good.

The seventh of the year
was a very dry one
and the crops were
very poor.

The eighth of the year
was a very wet one
and the crops were
very good.

The ninth of the year
was a very dry one
and the crops were
very poor.

The tenth of the year
was a very wet one
and the crops were
very good.

The eleventh of the year
was a very dry one
and the crops were
very poor.

The twelfth of the year
was a very wet one
and the crops were
very good.

The thirteenth of the year
was a very dry one
and the crops were
very poor.

The fourteenth of the year
was a very wet one
and the crops were
very good.

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TRAUMATIC AND NON-TRAUMATIC INDIGESTION IN SMALL RUMINANTS (With One Table & 5 Figs.)

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(Received at 27/12/1984)

SUMMARY

The present study aimed to determine the varieties of objects causing traumatic and non-traumatic indigestion among sheep and goats. Traumatic indigestion was caused mainly by nails, staplers and pieces of wires while non traumatic indigestion was caused mainly by plastic bags, rags, ropes, palm date pits, plant fibres, hair balls and sand. There was observed marked leucocytosis, slight neutrophilia with marked eosinophilia. Blood serum behaved hypoproteinaemia and high blood urea level.

INTRODUCTION

The four million* sheep in the Kingdom of Saudi Arabia are divided between Awassi, Najdi and Arabi breeds. They are dependent primarily on natural semiarid rangelands. Goats (about two million*) on the other hand, are raised in houses and in urban areas. Both species are raised for meat and milk production and constitute a traditional and economic importance for the majority of inhabitants.

It is well known that these animals during drought periods are subjected to graze on scrub, indigestible roughages and sometimes on garbage where the possibility of ingesting foreign bodies exists.

The aim of this work is to identify these foreign bodies, their location, their effect on some blood constituents and the role of surgical interference.

MATERIAL and METHODS

A total of 36 sheep, 34 goats, one kid and two lambs were admitted to the King Faisal University Veterinary Clinic, Saudi Arabia, with a history of indigestion, at the period between March, 1981 and April, 1982, 82% of these animals were over 18 months.

Each animal was subjected to thorough clinical and radiographic examinations to locate the foreign body and find out its characters whether it is perforating or not. Jugular blood was collected for a complete haemogram and serum was gained for determination of B U N, T. protein, Ca, Creatinine, Bilirubin, GOT, GPT, Na and K using test kits supplied by Boehringer Mannheim GmbH (West Germany).

* F A O Publications, Rome 1980.

Rumenotomy was performed under the effect of Rompun (Bayer) 2% solution given intramuscularly at a dose of 0.3 mg./Kg. B. wt., ten minutes before operation. In addition local infiltration anaesthesia of 2% lidocaine solution in a dose of 10-15 ml. injected along the line of incision after routine aseptic preoperative technique was carried out.

The technique adopted for rumenotomy was similar to that described by ASSAAD (1981) in sheep and goats. An incision about 15-20 cm. long was performed, 5 cm. below the transverse processes of the lumbar vertebrae and 5 cm. behind and parallel to the last rib, including skin, abdominal muscles and peritoneum. A fold of the rumen was grasped extr-abdominally and wrapped with sterile towel. The rumen was punctured and wound then was dilated with scissors. On opening of the rumen, sample of its contents were examined for color, consistency, smell and pH. The hand was carefully introduced inside the rumen to get any foreign object either from the rumen or reticulum. The ruminal wound was then closed with two rows of Lambert's sutures using catgut #1. The peritoneum, abdominal muscles and skin were closed as usual.

In cases where foreign bodies occupied more than half of the rumen space, fresh ruminal content, previously collected, from healthy animal, was put in to replace it.

The removed foreign bodies were identified and weighed after they were dried completely.

RESULTS

All operated animals tolerated well the type of anaesthesia used without any complication even those with very poor general condition. Goats were more sensitive to Rompun than the sheep, so they showed longer recovery period.

Operated animals where foreign bodies occupied less than half of the rumen (62 sheep and goats) did well postoperatively, while out of eight animals having larger foreign bodies occupying relatively more size, only seven survived the operation. One kid and two lambs, where sand occupied most of forestomach, did not survive.

The ruminal contents were olive to brownish in color. Large amount of fluid was present in cases where foreign bodies lodging in a big part of the reticulum or other stomachs. The pH (using pH strips) ranged from 6.3 to 7.4 and weight of the removed foreign bodies reached from 200 Gms. to 4.50 Kgs. Blunt foreign bodies (Fig. 1) included plastic bags, rags, ropes, palm date pits, plant fibers, hair balls and sand. Meanwhile the sharp foreign bodies constituted nails, staplers and pieces of wire. (Fig. 2).

Roentogenic study revealed that rest of the soft foreign bodies were found in the rumen (Fig. 3) or in both rumen and reticulum (Fig. 4). In these cases sand was located in the forestomachs. (Fig. 5).

There was a rise in the leucocytic count mean up to 14.300 and neutrophils up to 52% and marked eosinophilia (14%). In the meantime the enzymes SGPT & SGOT were 12&45 iu/L with a marked decrease in serum total protein (5.82 gm%). No significant changes in other serum constituents were found. (Table 1) with the exception of blood urea.

DISCUSSION

Deprived appetite in animals raised in environmental conditions in a country like Saudi Arabia and other similar countries is well known, this may contribute the ingestion of coarse indigestible

INDIGESTION IN SMALL RUMINANTS

materials. Animals under these conditions seem also to suffer from mineral deficiency and relish objects with mineral or metallic taste (JENSEN and MACKY, 1974), these foreign bodies either soft, blunt or penetrating are the cause of digestive problems and animals become clinically sick. Moreover, the limitation to the available drinking water may contribute to the occurrence of the disease during dry season (BLOOD *et al.* 1982). Although reports pointed out that incidence of foreign bodies in sheep and goats is very low (HAARENEN, 1977), yet it is considerably high in Saudi Arabia.

Dilatation of the stomachs caused by foreign bodies when they lodge in the pylorus constitute serious problems of indigestion. The disease usually stimulate vomiting (BLOOD *et al.* 1982) but when this does not occur, the secretions accumulate and gastric motility is increased with powerful waves passing towards the pylorus. Some animals showed depression of the cardiac and peripheral vascular system which result in shock and death, a finding which coincides with statements previously reported by SVENDSEN (1974). Other animals which escaped rapid death were subjected to medicinal treatment where some responded. Those with complications and did not respond to medical treatment constitute the material used in the present study.

The surgical technique adopted for lapro-rumenotomy in the present work was similar to that described by ASSAAD (1981). The rumen wound was made longer to facilitate removing of the foreign bodies thus decreasing the possibility of squeezing them at the ruminal wound.

Roentogenic examination was of value in differential diagnosis, location and identification of obtained foreign bodies particularly in pregnant animals.

The blood picture was rather normal with the exception of a rise in the total leucocytic count (14,300/cmm) associated with a moderate neutrophilia (52%). The presence of F.B. either in the rumen or reticulum produces sometimes traumatic lesions in their mucosa (HUNGERFORD, 1975) with consequent leukocytosis. The tissue response for such F.B. may also be responsible for the moderate eosinophilia ensued (MEDWAY *et al.* 1973).

The total protein amounted 5.82 gm% recording a slight drop which may be attributed to the state of the liver during the illness and the improper digestion of food. (KANEKO, 1980).

Urea, on the other hand, was highly increased probably because of a partial lung insufficiency on one part and on the other due to formation of some toxic breakdown products under the effect of slow rate of ingesta in the gut (MADWAY *et al.* 1973). This is not of much value in this respect to be considered as an indication of kidney insufficiency because of the recycling of urea into the rumen in the operated species. Moreover other parameters especially potassium were within normal ranges indicating a functioning kidney.

Table (1): Blood Chemistry

Constituents	Mean Values
Blood Urea	34 mg/dl.
T. Protein	5.82 gm%
Ca	2.079 mmol/dl
Creatinine	1.08 mg/dl
Bilirubin	0.238 mg/dl
SGOT	45 iu/L
SGPT	12 iu/L
Na	144.8 mmol/L
K	3.85 mmol/L

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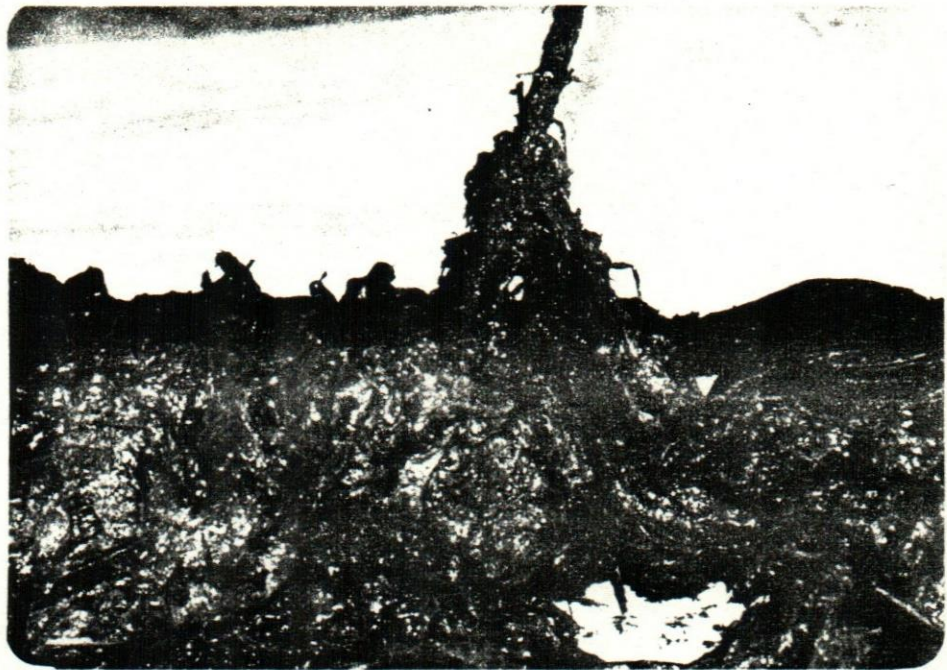


Fig. (1): Blunt foreign bodies found in rumen and reticulum

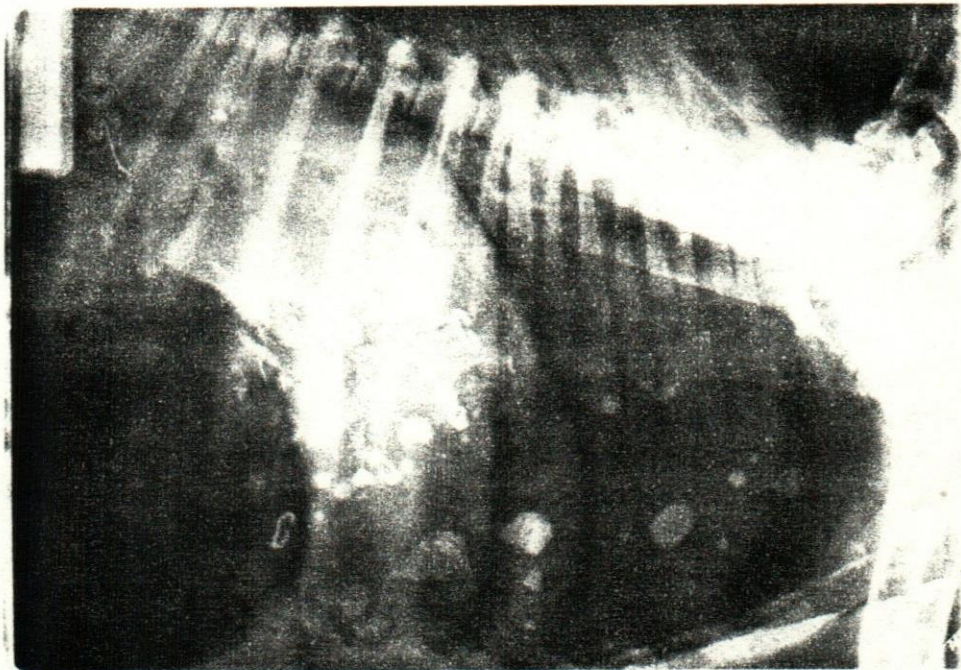


Fig. (2): Nails, staplers and pieces of wire in rumen and reticulum.

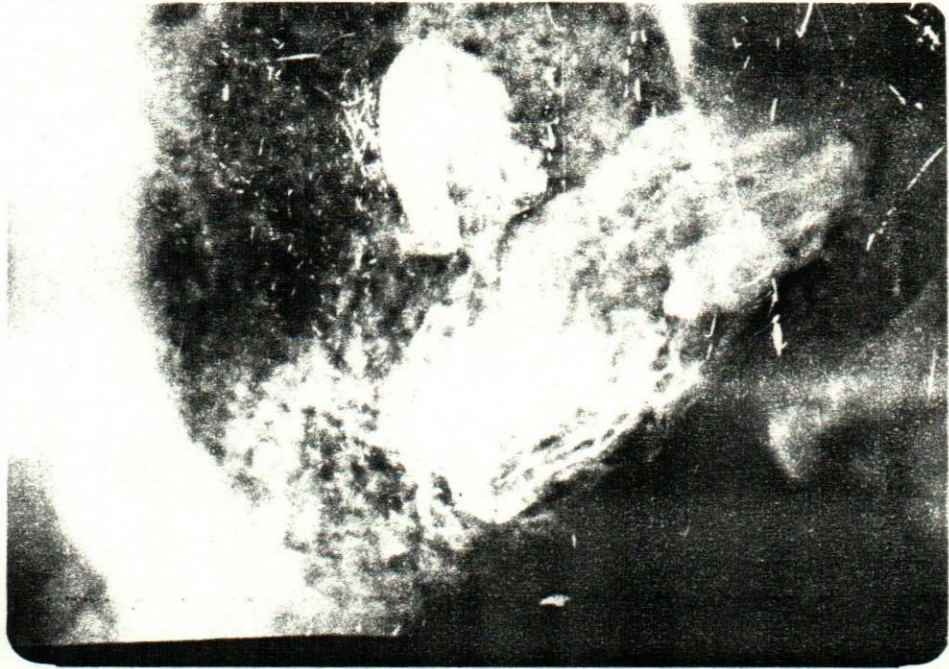


Fig. (3): Soft foreign bodies in the rumen

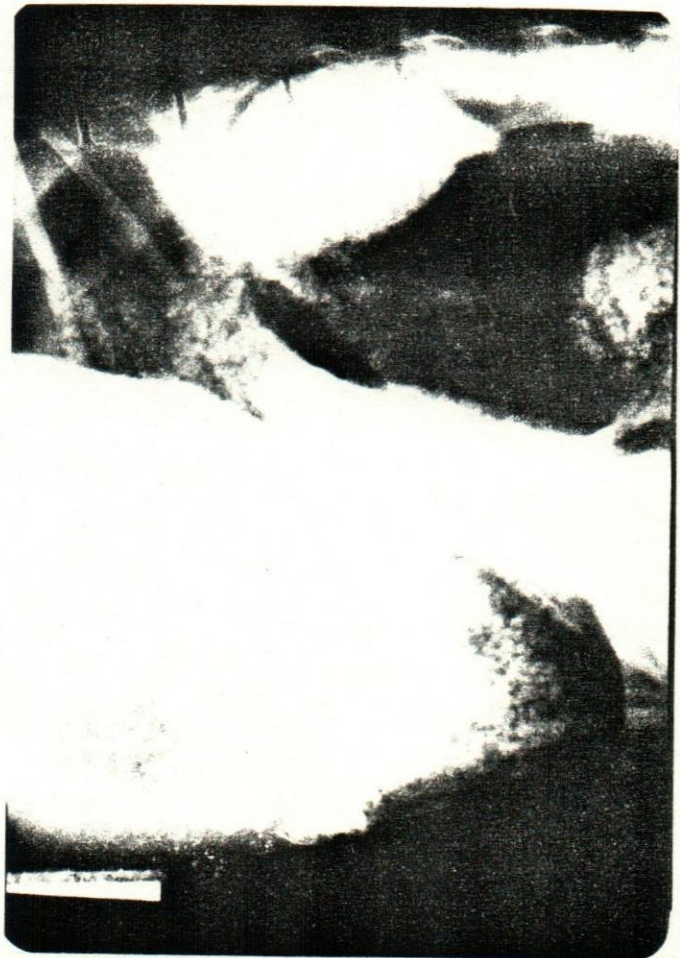


Fig. (4)
Soft foreign bodies in rumen
and reticulum

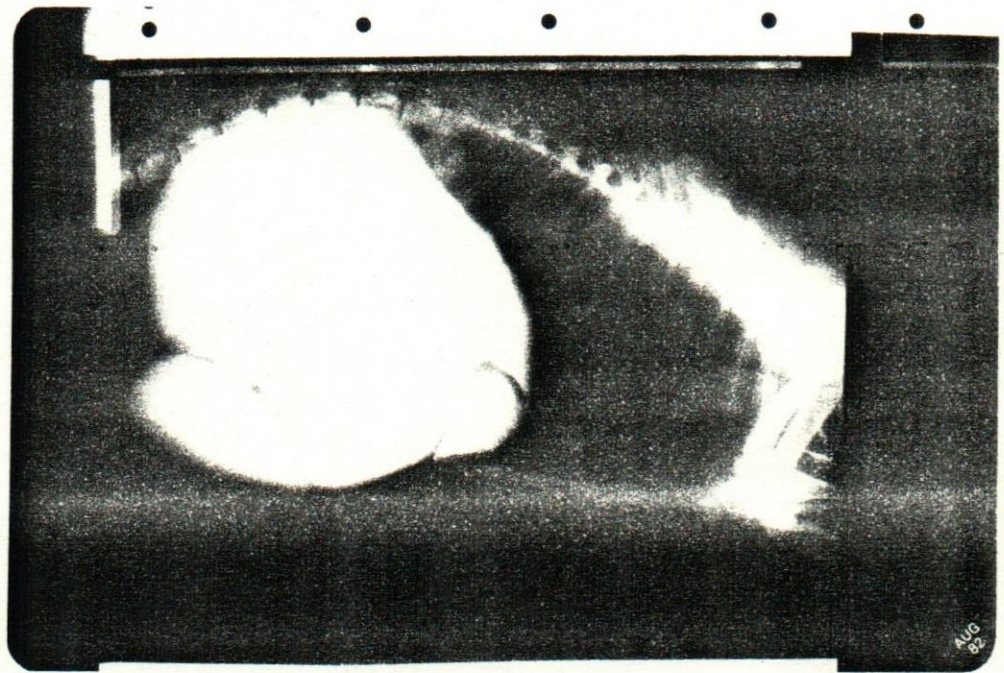


Fig. (5): Sand filling fourstomachs



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