 بعض المشاهدات التشريحيَّة على طبوغرافية وتوزيع الأوَّعية والعقد اللفيَّة الوجودية

 علي معدة الجاموس في مصر

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المتخصِّص

أجري هذا البحث على عشرة معدات للجاموس وعدد مماثل لمعدات المجول الصغيرة، يتراوح
منها بين (40 - 50) يومًا وعشرة اجنة كاملة النمو.

لقد درست أشكال وأعداد وتوزيع الطبوغراف في المعد اللفي، وكذلك الأوعية الداخلة والخارجية
منها ونوقشت النتائج مع ما قد تم الحصول عليه من مراجع.

لقد وجد أن المعد اللفي للمعدة هي:

1 - العقد البهوية للكرش: التي خلالها تجتمع الأوعية اللفية الداخلة من البهو الكرش ويبّن
عقد المعدة، بينما تخرج منها أوعية تتجتمع مع بعض مكونة الوىاء المعدة المام.

2 - العقد البهوية واليسارية والتحافية للكرش التي توجد في اليراب اليساري واليساري والتحافي
وخلالها تجتمع الأوعية اللفية من المناطق المجاورة وتدخل هذه المعدة، بينما الأوعية اللفية الخارجيه
منها تدخل المعد البهوية للكرش.

3 - العقد الشبكية وتتعم إلى جزءين:

أ - عقد يجوز على الجزء العلوي من الشبكية.

ب - عقد يجوز على الجزء السفلي المنصف بالانفخحة (المعد الشبكية الانفخحه).

4 - العقد الوركية: التي خلالها تجتمع الأوعية اللفية من الوركية، بينما الأوعية اللفية
الخارجية تذهب إلى المعد البهوية للكرش.

5 - العقد الوركية والبطنيَّة (الانفخحة): التي خلالها تجتمع الأوعية اللفية الداخلة من المناطق
المجاورة من الأوعية، بينما الأوعية اللفية الخارجيه تذهب إلى المعد الوركية.
SOME ANATOMICAL OBSERVATIONS ON THE TOPOGRAPHY
AND MACROSCOPIC DISTRIBUTION OF THE LYMPH
VESSELS AND NODES OF THE STOMACH OF BUFFALO
IN EGYPT (Bos, buhalis, L.)

(with 1 figure)

by

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(Received at 16/11/1974)

SUMMARY

Ten stomach of adult buffaloes, similar number of calves stomach ranging from 40—60 days old and 10 full term buffalo foetuses were used for studying the gastric lymph nodes and their vessels.

The shape, number and position of the following gastric lymph nodes with their lymph vessels were described:

1. Atrial
2. Right, left and cranial ruminal
3. Reticular
4. Omasal
5. Reticulo-abomasal
6. Dorsal and ventral abomasal

INTRODUCTION

Several authors as BAUM (1912), OSTERTAG (1934), GLAGOLEF and EPOLITOVA (1962), HABEL (1964 & 1965), RAGHAVAN (1964), AKAIVSKY (1968), SISSON & GROSSMAN (1968), and KOCH & BERG (1970), studied the anatomy of the gastris lymph nodes and their vessels. Most of these workers found that the gastric lymph nodes in ox were right, left and cranial ruminal; reticular, omasal, reticulo-omasal, reticulo-abomasal; dorsal and ventral abomasal; atrial and rumino-abomasal lymph nodes. KOCH & BERG neglected the presence of the rumino-abomasal lymph nodes. THORNTON (1970) stated that the gastric lymph nodes of the ox are numerous and difficult to group satisfactorily. They form a chain along the right and left longitudinal grooves of the rumen.
LYMPH VESELS AND NODES OF BUFFALO STOMACH

TAHER (1962) gave a detailed description of the gastric lymph nodes in the camel and grouped them as dorsal and right ruminal, and dorsal and ventral omaso-abomasal lymph nodes. MOFSECIAN & MANFELIAN (1950) gave some morphological features of the anatomy of lymph nodes of buffalo and ox. EL-GENDI (1971) described the shape and position of the gastric lymph nodes in buffalo. He considered that the gastric lymph nodes belong to the coeliac lymph center. They are large in number, scattered along the main blood vessels over the different compartments of the stomach.

The present investigation aims to add some anatomical features to what have been recorded on this animal.

MATERIAL AND METHODS

Inspection of the lymph nodes, their number and distribution on the stomach of buffalo have been carried on ten adult normal stomach brought from Cairo slaughter house. The lymph vessels have been studied on the same number of calves ranging between 40-60 days and 10 suck calves. They have been thoroughly cleaned and fixed in 10% neutral formalin and 4% phenol and 2% glycerine. The technique of TAHER (1965) was used to follow the lymph vessels. An injection of serum colored with indian ink have been carried in fresh specimens under the serous membrane after warming to 37°C. in normal saline.

RESULTS AND DISCUSSION

The terminology used in this work is that of Nomina Anatomica Veterinaria (1968). The lymph vessels of the stomach of buffalo as well as the lymph nodes are subject to wide variation in their number, distribution and location. The lymph nodes are considerably large in size and number. Their general form is bean-shaped or oval, greyish in colour, with smooth surfaces and firm consistency. They are grouped along the course of the blood vessels, embedded in fat and covered by the visceral layer of the peritoneum. Similar findings obtained by MOFSECIAN & MANFELIAN (1950). The gastric lymph nodes are grouped in the following manner (Fig. 1).

The atrial lymph nodes (Lnn. atriales) (Fig. 1/1) : Are 4 in number mainly found on the right surface of the atrium ventriculi, caudal to the cardia. They measure 2.5-3 Cm. long, 2.5 Cm. wide and 0.3-4cm. thick. The afferent vessels come from the atrium ventriculi; the neighboring part

of the rumen and reticulum and from the spleen. The efferent vessels of the
difficult ruminal, cranial ruminal, accessory right ruminal, reticular, omasal lymph
nodes join the atrial lymph nodes. The efferent vessels of the latter nodes unite
to form the gastric trunk (truncus gastricus). The latter may joins the
lymphocentrum celiacum or cisterna chyli. Similar observations were obtained
in the ox by AKAIKSKY (1968), SISSON and GROSSMAN (1968) and

![Diagram of lymph nodes and vessels](image)

Fig. 1. Right surface of stomach of buffalo showing the arrangement of lymph nodes and
lymph vessels.

A.—Oesophagus  B.—Reticulum  C.—Omasum  D.—Abomasum

E.—Rumen

1. Lnn. atriales.
2. Lnn. ruminales dextri
3. Lnn. ruminales dextri accessorii
4. Lnn. reticulares,
5. Lnn. reticuloabomasiales
6. Lnn. omasiales
7. Lnn. abomasiales dorsales.

The right ruminal lymph nodes (Lnn. ruminates dextri) (Fig. 1/2): These are 4-6 in number, measuring from 2-3.5 Cm in length, 1 Cm. in width; and 0.4 Cm. in thickness. They are embedded in fat along the course of the right ruminal vessels as they pass in the right longitudinal ruminal groove. The afferent vessels come mainly from the upper and lower parts of the right ruminal surface. The efferent vessels of the cranial part of the group go to the atrial lymph nodes, sometimes to the common gastric trunk. In 50% of the examined cases, there were 2-3 small lymph nodes near the adjacent part of the rumen facing to the omasum. This group of lymph nodes known as the accessory right ruminal (Lnn. accessorius dextra) (Fig. 1/3), given by SISSON & GROSSMAN (1968) which drains vessel from the rumen and the nearest part of the omasum. The efferent vessels go to the atrial lymph nodes. EL-GENDI (1971) divided the right ruminal lymph nodes into 3 isolated groups without referring to the accessory right ruminal.

The left ruminal lymph nodes (Lnn. ruminates sinistri): Represented by one or two nodes in 20% of examined cases, otherwise they were absent. When present they were embedded in the left longitudinal groove of the rumen along the course of the left ruminal vessels. EL-GENDI (1971) stated that they are found in all cases, a result which is not found here. He added that there are 2 very small nodes found at the left end of the caudal ruminal groove and considered them as the caudal ruminal lymph nodes. The latter is not referred to by other investigators in bovines; SISSON & GROSSMAN 1968, and (KOCH & BERG, 1970).

The cranial ruminal lymph nodes (Lnn. ruminates craniales): Are embedded deeply in the cranial ruminal groove. Their average number ranges from 3-6; their length 2 Cm. The afferent vessels come from the adjacent part of the rumen, and from the left ruminal lymph nodes (if they are present). The efferent lymph vessels go to the right ruminal and atrial lymph nodes.

The reticular lymph nodes (Lnn. reticulares) (Fig. 1/4): These were grouped along the reticulum in two sets, an upper group 3-5 in number was found on the upper part of the reticulum and a lower one 2-4 in number known as the reticulo-abomasal (Lnn. reticuloabomasales Fig. 1/5) located in the reticuloabomasal groove. Each measures about 2 cm. in length, 2 cm. in width and 1 cm. in thickness. The afferent vessels mainly come from the reticulum, and adjacent part of the omasum, and the fundic part of the abomasum. The efferent vessels go mainly to the atrial lymph nodes. The present findings agree with that of EL-GENDI (1971) concerning the arrangement of the reticular lymph nodes. In addition he have not referred to the reticulo-abomasal lymph nodes.

The omasal lymph nodes (Lnn. omasiales) (Fig. 1/6) : Their number vary from 6-12, each measures about 3 cm. in length, 0.5 cm. in width and 0.5 cm. in thickness. They were located along the course of the dorsal omaso-abomasal vessels on the omasum. Their afferents come from both surfaces of the omasum and the efferents passed mainly to the atrial lymph nodes. TAHER (1962) did not refer to the omasal lymph nodes in the camel. AKAIWSKY (1968), SISSON & GROSSMAN (1968), and KOCH & BERG (1970) given similar results in the ox.

The dorsal abomasal lymph nodes (Lnn. abomasales dorsales) (Fig. 1/7) : They were represented by 3-5 nodes, located along the course of the dorsal omaso-abomasal vessels at the lesser curvature of the abomasum. The measurements were in succession, 2-3 cm., 1-2 cm. and one cm. for the length, width and thickness. The afferent vessels come from the lesser curvature and both sides of the abomasum, the initial part of the duodenum, and the ventral part of the omasum. The efferent vessels pass mainly in the lesser omentum to the hepatic lymph nodes but some from the cranial part of the series go to the omasal and reticular lymph nodes. The number given by EL-GENDI (1971) was 10-15 nodes of globular or ovoid outline measuring 0.5-2 cm. in diameter.

The ventral abomasal lymph nodes (Lnn. abomasales ventrales) : In 25% of the cases examined they were represented by one or two nodes otherwise, they were absent. When present they measure 2.5-3 cm. in length, 1.5 cm. width and 0.5 cm. thickness embedded in the omental fat at the greater curvature of the pyloric part of the abomasum. In well nourished animals these nodes are difficult to demonstrate, being masked by omental fat. The afferent vessels come from the abomasum and the duodenum and the efferent vessels ended in the hepatic lymph nodes. EL-GENDI (1971) stated that the ventral abomasal lymph nodes are 12-13 in number showing the same shapes and dimensions to the dorsal abomasal lymph nodes. TAHER (1962) in the camel stated similar group. The same observations were obtained by AKAIWSKY (1968), SISSON & GROSSMAN (1968) and KOCH & BERG (1970) in the ox.

REFERENCES


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