

SPLENECTOMY IN A DROMEDARY CAMEL SURGICAL APPROACH

BY

I. M. IBRAHIM; S. A. EL-MOUGY; A. AL-HAWAS and M. AL-DUBAIB

Dept. of Vet. Med. Faculty of Agric, and Vet. Med.; Bureidah, Al. Gassim, K. S. U.

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SUMMARY

Splenectomy in a camel under general anaesthesia was successfully performed in the Vet. Clinic, Faculty of Agr. and Vet. Med. K. S. U. A comprehensive topographical anatomy of the spleen and its surface relations were mentioned. The laparotomy incision was made in the left flank from behind the last 12th rib at the end of the transverse process of the 1st lumbar, the incision took a downward and backward direction to the level of the 7th transverse lumbar process with an angle of 45 degree with the horizontal level. This approach gave enough scope for the operation field and space for ligating the splenic vessels.

INTRODUCTION

The spleen is an organized lymphoid mass, and has its haematological and immunological importances (Gardner, Gray and Hahilly, 1969 ; Yoffey and Courtice, 1970).

Splenectomy was first performed on man in order to correct conditions which were due to accident or disease such as splenomegaly and malignant tumours. Later on it was performed on lower animals in connection with research, (Kumar, Singh, and Singh, 1989). In many institutes, small laboratory animals as dogs, sheep, pigs and calves were quite easily and frequently splenectomised for research purposes but the operation is rarely carried out on adult cattle or horses (Dennig and Brocklesby, 1965).

Research on camel physiology, immunology, protozoology as well as in accidental injuries

necessitates the study of splenectomy in camels. Thus the purpose of this paper is to describe a surgical approach to splenectomy in camel with special reference to the topographical anatomy.

Surgical Approach:

A two years old male camel weighing about 500 kg was used.

Pre-surgical preparations:

The camel was prepared for operation by being deprived from food and water 48 hours. The day before surgery a large area around the left flank was thoroughly clipped and shaved.

Anaesthesia:

The camel was secured in the normal kneeling position. For tranquillisation and sedation of the camel a dose of 0.25-0.5 mg/kg b. w. of Rompun® (Xylazine HCl 20 mg/ml) was injected i.m. (Kamis; Fouad; Sayed 1973). Anaesthesia was achieved by i.m., injection of 2-4 mg/kg. b.w. of Ketamine® (Ketamine HCl 50 mg/ml).

Ketamine was given after Xylazine had taken effect (i.e. the camel head should drop). Lateral recumbency was assumed after 5-10 minutes after ketamine administration. This anaesthesia proved quite satisfactory and surgery was seldom interrupted by movements of the camel, and the duration of surgical anaesthesia was approximately 30-45 minutes. The induction and recovery was generally smooth and the camel

stood 60-90 minutes after ketamine administration. Fluid therapy during anaesthesia was applied.

Surgical procedure:

The surgical site was scrubbed twice with soap and water and painted with tincture of iodine. The camel was kept on the right lateral recumbency, and was draped with sterile towels. The legs were also draped to reduce potential contamination. The skin incision began at the palpable extremity of the 1st. transvers lumber process and was continued backward and downward with an angle of 45° with the horizontal to the level of the 7th transvers lumber process for a distance of 30-35 cm.

Cutaneous haemorrhage was easily controlled by twisting the vessels with artery forceps. After opening the peritoneal cavity the spleen was partly exposed. Great care was necessary during extraction of the spleen to avoid rupture of the splenic capsule.. Before retrieval of the caudal extremity, the rumenosplenic ligament had to be detached from the diaphragm and left kidney. The blood vessels running in the rumenosplenic

omentum were secured with double ligatures by vicryl No. 2. At a distance of about 2 cm from the hilus 2 or 3 vessels were ligated (Figs. 1 & 2). The splenic vein and artery were also double ligated .

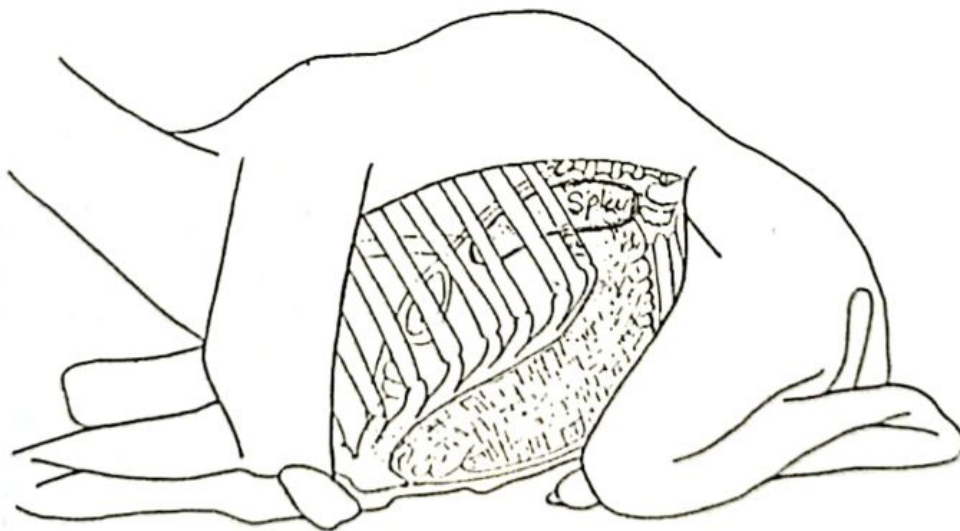
Having ligated all the blood vessels, they were cut close to the hilus and the spleen was removed. Before the peritoneal cavity was closed a dose of 30 ml penicillin streptomycin was injected intraperitoneally. The muscles were stitched with double rows of simple continuous sutures with vicryl No. 2. The skin was closed with mattress suture using silk No. 3.

Post-Operative Care:

The body temperature, blood picture were checked daily for 10 days. A combination of penicillin and streptomycin were injected for 4 days post operation (Fig. 3).

RESULTS AND DISCUSSION

The experimentally operated camel regained normality within 15 days. Perfect healing of the surgical wound was achieved and no complication



TOPOGRAPHICAL DIAGRAM FOR THE POSITION OF THE SPLEEN

Surgical Approach

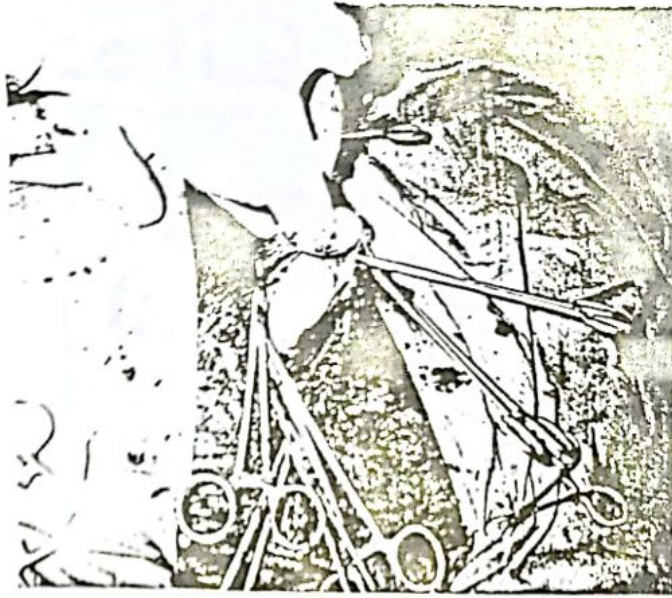


Fig. 1: Ligation of splenic blood vessels.

occurred. In the present procedure the surgical technique as applied for splenectomy on the left flank and by the mentioned topographical anatomy of the spleen proved to be efficient and

passed without any difficulty to exteriorize the spleen and locate the splenic vessels. Also the action of the anaesthetic regimen minimized straining during the operation.



Fig. 2: The Exteriorized spleen.



Fig. 3: The camel after splenectomy.

REFERENCES

- Amresh Kumar; Harpal Singh; Rattan Singh, (1989): Comparative evaluation of different techniques of splenectomy in buffalo calves. *The Indian Vet. J.* Vol. 13 No. 2.
- Denning, H. K. and Brocklesby, D. W. (1965): Splenectomy of horses and donkeys. *Vet. Rec.* 77, No. 2, 40-43.
- Gardner, E., Gray, D. J. and Rahill, R. O. (1969): *Anatomy* 3rd Ed.
- Khamis, Y.; Fouad K.; Sayed, A. (1973): Comparative studies on tranquilisation and sedation of *camelus dromedarius*. *Vet. Med. Review* No. 4 pp. 336-345.
- Yofley, Y. M. and Courtice F. C. (1970): Lymphatic and lymphomyeloid complex. In Getty, R. (1975): *The anatomy of domestic animals.* 5th Ed.