

Dept. of Surgery,  
Faculty of Vet. Med., Assiut University,  
Head of Dept. Prof. Dr. M.T. Nassef.

**CASTRATION IN DOGS**  
**(A comparative study)**  
**(With 1 Table & 4 Fig.)**

By

**N.A. MISK and SAMIA M. SELEIM**

(Received at 15/5/1991)

الخصي في الكلاب

نبيل ميسك ، سامية سليم

في هذا البحث تم استخدام 24 كلب ذكر تم تقسيمهم إلى أربع مجموعات وتم إجراء عملية الخصي بالطرق المختلفة لكل مجموعة . ففي المجموعة الأولى تم إجراء العملية بطريقة الفتح أمام كيس الصفن ، والمجموعة الثانية بالفتح خلف كيس الصفن ، والثالثة بطريقة الإزالة الكلية لكيس الصفن والخصيتين ، والرابعة بالطريقة الكلاسيكية بفتح كيس الصفن وإزالة الخصيتين . وتم تسجيل المدة التي أستغرقتها العملية والمضاعفات بعد العملية والمدة التي تم فيها الإلتئام التام والشكل الجمالي لمكان العملية بعد الخصي . ودلت النتائج علي أن أحسن طريقة للخصي هي الفتح أمام كيس الصفن وإزالة الخصيتين في حالات خصي الحيوانات السليمة . وأما في حالات وجود إصابات باثولوجية يمكن إستخدام طريقة الإزالة الكلية للصفن والخصيتين .

**SUMMARY**

24 healthy mature native male dogs were divided into four groups. The first group was subjected to castration by prescrotal approach, the second group by postscrotal approach, the third group by scrotal ablation and the last group by the classical method of open castration. The time of operation, postoperative complications, time of clinical healing and cosmetic appearance postoperatively were recorded.

Results indicated that prescrotal approach was the most suitable technique for castration of healthy animals. Scrotal ablation is an alternative technique in cases of pathological condition of the testicles and scrotum.

## INTRODUCTION

Castration of male dogs have been used for behavior modification and to control pet population. Also, castration has been indicated as a treatment of different prostatic conditions, neoplasms of the testes and scrotum, orchitis that is resistant to treatment with drugs and perianal neoplasms (BOJRAB, 1983).

Different methods of castration were described in the available literatures. HARVEY (1973) and JOHNSTON and ARCHIBALD (1974) performed scrotal ablation for castration in old dogs. Also, scrotal ablation and castration was performed in ruminants by MISK (1982) and in equine by MISK and SELEIM (1987). EARNSHAW (1967); WOLFF (1981) and KAPLAN (1981) used the routine midline prescrotal incision for open castration. The later author suggest the ligation of the ductus deferens and spermatic vien together using four hand-ties without using catgut ligature. Traditional castration technique by sagital skin incisions at the scrotal sac was indicated by O'CONNOR (1965) and JOHNSTON and ARCHIBALD (1974). The skin incision was performed at the ventral aspect of each scrotum and through the tunica vaginalis paretalis to expose the testicles. The testis was removed and the scrotal wounds were left for second intention healing.

The aim of the present work is to perform a comparative study between the common methods for castration of male dogs concerning the time consumed during operation, the post operative complications, the clinical healing time and cosmetic sight at the seat of operation.

## MATERIAL and METHODS

24 healthy mature native male dogs were used in the present study. Animals were divided into four groups (each by 6 animals) and the following techniques were performed:

- Group 1:** Prescrotal approach with first intention healing (Fig. 1).
- Group 2:** Postscrotal approach with first intention healing (Fig. 2).
- Group 3:** Scrotal ablation with wound closure and first intention healing (Fig. 3).
- Group 4:** Classical open castration through the scrotal sacs with second intention healing (Fig. 4).

All techniques were performed on the same principle lines described in different literature and textbooks under the usual measurements of surgical asepsis and antisepsis. The operations were conducted under effect of general anaesthesia using thiopental sodium and animals were premedicated with combelen (Bayer) as a tranquilizers.



## CASTRATION IN DOGS

The time consumed during operations were calculated and postoperative complications, if present, were recorded. The time of clinical healing of the skin wound was registered as well as the cosmetic appearance at the seat of operation was evaluated as regard to the condition of the scar left after operation.

### RESULTS

The following table illustrates the results of the present work concerning the points under discussion.

Technique of castration	Prescrotal approach	postscrotal approach	Scrotal ablation	Classical open castration
Time of operation	5 min.	5 min.	10 min.	4 min.
Postoperative complications	no	wound dehiscence = 3 cases.	wound dehiscence = 2 cases.	sepsis = 1 case oedema = 1 case
Time of clinical healing	7 days	7 days	10-15 days	15-21 days
Cosmetic appearance	Shrunken scrotum with a faint scar in front of it.	Shrunken scrotum with a moderate scar behind it.	A clear scar with absence of scrotal sac.	Shrunken scrotum with two clear scars.

### DISCUSSION

The time consumed during classical open castration was the least when compared with the other methods of castration, however, prescrotal and postscrotal approaches have nearly the same time. Open castration have many disadvantages when compared with other methods. Postoperative scrotal oedema, haemorrhages, infection and prolapse of the tunics and spermatic cord were the most common complications of open castration (FOUAD, 1958 and O'CONNOR, 1965).

In addition, obligatory wound healing by second intention which consume a long time and necessitates a daily follow up of the case is added to the disadvantages of using such technique.

## MISK and SAMIA

Prescrotal midline approach was considered the ideal method for castration of healthy animals. The complications were absent, time of healing is the least and only a faint scar was the remanent of the operation. The animals have an approximately normal scrotal sacs which denuded testicles and a faint 1-2 cm scar at the ventral aspect of the base of the penis. Postscrotal approach have the same advantages and easily to be performed but the site of operation is usually subjected to infection from the nearby anus as well as frequent irritation by the movement of the contaminated tail.

Scrotal ablation can be considered the technique of choice in diseased conditions of the testicle and/or the scrotum (HARVEY, 1973 and MISK, 1982). It consumes a longer time for operation than other techniques and wound dehiscence was suspected. Moreover, absence of scrotal sacs may cosmetically give a bad impression about the male animal but when the condition of testicles and scrotum dictates ablation, (orchitis, periorchitis, hydrocele, haematocele and neoplasms) this technique will be more preferable than others to salvage the animal life.

## REFERENCES

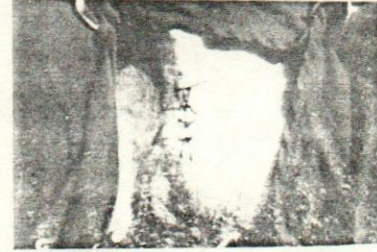
- Bojrab, M.J. (1983): Current techniques in small animal surgery. Second edition, Lea and Febiger, Philadelphia.
- Earnshaw, R.E. (1967): A minimum incision technique for castration. *Canad. Vet. J.*, 8: 161-163.
- Fouad, K. (1958): Aseptic castration in male animals. *Bull., Fac. Vet. Med., Cairo Univ.* 5 (6): 219-222.
- Harvey, c.E. (1973): Scrotal ablation and castration in the dog. *JAAHA.*, 9: 170-173.
- Johnston, D.E. and Archibald, J. (1974): *Canine surgery*. Second Ed. American veterinary publication. INC, Drawer, K.K., Santa Barbara, California.
- Kaplan, B. (1981): A technique of canine castration using anatomic structures for haemostasis. *VM/SAC*, Vol. 76 (1): pp. 193-196.
- Misk, N.A. (1982): Castration and scrotal ablation in ruminants. *Mod. Vet. Prac.*, 63: 637-638.
- Misk, N.A. and Seleim, S.M. (1987): An improved technique for castrating equids. *Veterinary Medicine*, 5, 1987, 538-540. and *Der praktische tierarzt* 11/1987, 24-25.
- O'Conner, J. (1965): *Dollar's veterinary surgery*. 4th Ed. Balliere, Tindall and Cox, London, U.K., pp. 361-376.
- Wolff, A. (1981): Castration, cryptochidism and cryptochidectomy in dogs and cats. *VM/SAC*. Vol. 76 (12) pp. 1739-1741.

## CASTRATION IN DOGS

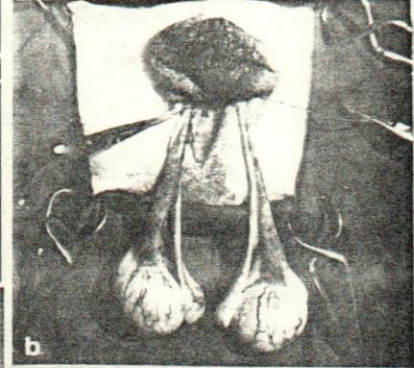
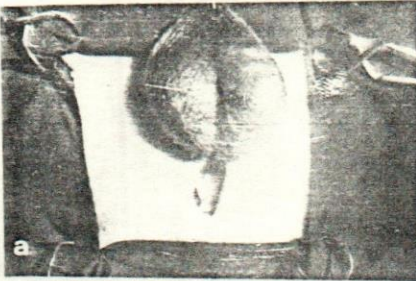
**LEGENDS**

- Fig. 1:** Prescrotal approach with first intention healing.
- a) Skin incision at the base of the penis in front of the scrotum.
  - b) Exposure of the testicles and spermatic cords.
  - c) After wound closure.
  - d) 7 days after wound healing and formation of clear scar.
- Fig. 2:** Postscrotal approach with first intention healing.
- a) Skin incision at the base of the penis in front of the scrotum.
  - b) Exposure of the testicles and spermatic cords.
  - c) After wound closure.
  - d) 7 days after wound healing and formation of clear scar.
- Fig. 3:** Scrotal ablation with wound closure and first intention healing.
- a) Skin incision around the base of the scrotum.
  - b) Exposure of the testicles and spermatic cords.
  - c) After wound closure.
  - d) 7-days after wound healing and formation of clear scar.
- Fig. 4:** Classical open castration through the scrotal sacs with second intention healing.
- a) Two parallel skin incision at the ventral aspect of the scrotal sac.
  - b) Exposure of the testicles and spermatic cords.
  - c) 7-days after wound healing and formation of clear scars.

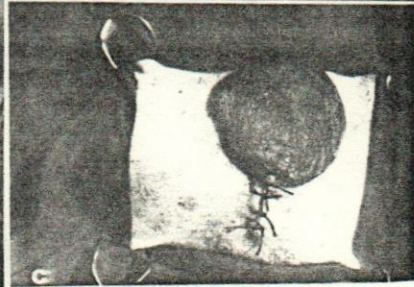
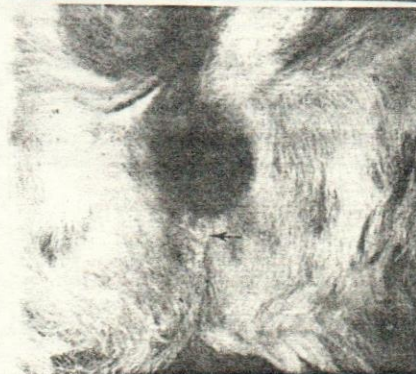




1

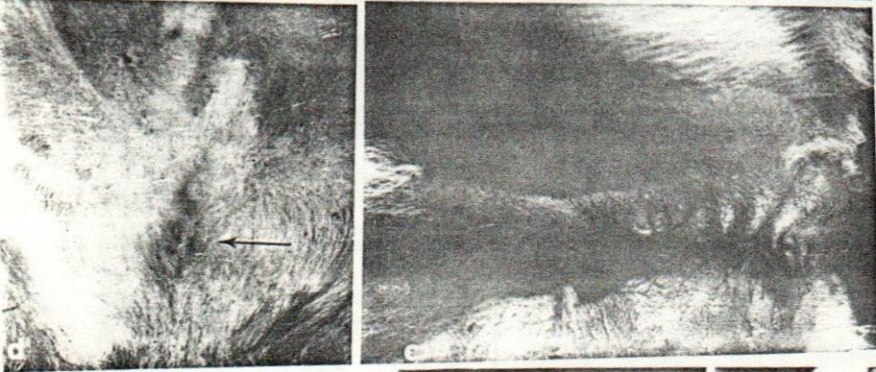
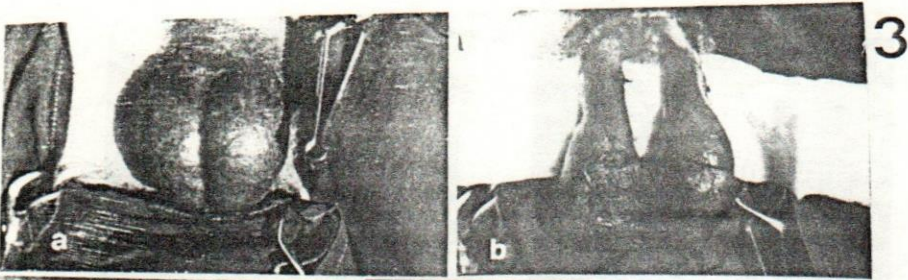


2





CASTRATION IN DOGS



4

