SURGICAL MANAGEMENT OF SOME ANO-RECTAL AFFECTIONS IN FARM ANIMALS

Gamal I. A . Karrouf

Dept. of Surgery, Anesthesiology & Radiology.

Faculty of Vet. Medicine, Mansoura University

SUMMARY

The present study aimed to detect the prevalent and rarely occurred ano-rectal affections in farm animals as well as their surgical management. Sixty five animals of different species (23 lambs, 3 kids, 14 calves, a foal, 2 donkey foal, a cow, 3 mares, 2 stallions, 3 buffaloes and 13 donkeys) suffering different ano-rectal affections. These animals were admitted to the Surgery Clinic of the Mansoura Veterinary teaching hospital or managed during field training trips in Dakahlia villages. This was during a three years period between April 2003 and March 2006. A precise case history, physical and clinical examinations was adopted. Surgical exploration in some instances was needed for diagnosis of many of these cases. A confirmatory histopathological examination was carried out for neoplastic masses .

The congenital ano-rectal affections recorded in the present work were atresia ani (24 cases) , atresia ani et recti (4 cases) , atresi ani et vulvi (3 cases), atresia ani with taillessness (1case) and atresia ani with rectovaginal fistula (11 cases). The acquired affections include rectal prolapse (15 cases), ano-rectal tears (2 cases) , perirectal abscess(1case), rectovaginal fistula (2 cases) , rectal polyp (1case) and rectal leiomyoma (1case) . The higher incidence of congenital anomalies was recorded in lambs followed by calves while the incidence of acquired ano-rectal affections was higher in donkeys. The uncommon ano-rectal affections recorded in the present study were atresia ani in donkey foal, atresia ani with rectovaginal fistula in she-donkey, atresia ani et recti in a foal, atresia ani et vulvi in calves, rectal polyp and rectal leiomyoma. Different surgical techniques used for management of these affections were described and satisfactory results were obtained.

INTRODUCTION

The frequency of congenital malformation of the anus and rectum is common in domestic ani-

mals. The two structures developed from two distinct areas in the embryo and unite to form one passage (**Noden and Delahunta 1985**). The most important of the disorder involve agenesis of the anal opening and lumina of the rectum and colon. These are referred to as atresia ani,and atresia coli. They are less frequent in the equine species than the bovine **(Walker and Vaughan,1980)**.

Atresia ani observed in calves, kids and lambs. It may be a condition on its own or associated with atresia or agenesis of the other parts like atresia recti, rectovaginal fistula, rectocystic fistula, taillessness, hypospadias and cleft scorta **(Dreyfuss & Tulleners, 1989 and Martens et al., 1995)**.

Anus vaginalis is a related condition in which the atretic anus is circumvented via an unnatural opening into the roof of the vagina. Faces are expelled through the vulva **(Walker and Vaughan, 1980)**.

The common acquired rectal problems recorded in all domestic animals were rectal prolapse, rectal tears, perineal laceration involving anus and rectum and rectovestibular fistula **(Turners & Fessler, 1980; Kassem, 1001; Freeman & Martin, 1002; El Seddawy, 1990 and Kandeel, 2000)**.

Rectovestibular fistula (RVF) mostly results from foaling injuries, although they can occur from other accident. Some RVF will heal without surgical intervention, so surgical correction is attempted at least one month or more after injury **(McKinnon et al., 1991)**.

The most common neoplasms of the perineal region, anus and rectum of the horse are squamous cell carcinomas and melanomas **(Scott, 1988)**. A polyp is a tumorous mass that protrudes into the bowel lumen. It may be either small or large and either pedunculated or sessile. They can also be categorized as either non-neoplastic or neoplastic **(Van Kruining, 1995)**.

In cattle, leiomyoma, fibromas, fibrosarcoma and adenoma of the rectum were recorded by **Saidu & Chineme (1979) and Singh et al. (1996)** while perianal papillomata was recorded by **Nassef et al.(1986) and Hofmeyr (1958)** .

The present study aimed to declare the commonly and rarely occurred ano-rectal affections in farm animals as well as the description of their surgical management.

MATERIALS AND METHODS

The present study was carried out on a total number of 65cases suffered from different ano-rectal affections. These animals either presented to Surgery Clinic of the Mansoura veterinary teaching hospital or managed during field training trips in Dakahlia villages. This was during the

period between April 2003 to March 2006. Diagnosis of these affections was based on history of the case and presenting clinical findings and it was clear in cases of ano-rectal malformation. Abdominal pressure was needed to differentiate between atresia ani and atresia ani et recti. In cases of anus vaginalis, the presence of fistula was ascertained through the history and vaginal examination digitally to detect the unnatural opening in the roof of the vagina while the faeces were expelled through vulva. Exploratory laparotomy was used in extensively atretic rectum. Confirmative histopathological examination was performed for neoplastic masses.

Surgical procedures:

Anesthesia: caudal epidural analgesia using lidocaine 2% (Xylocaine , Astra Sodertalje , Sweden) for all cases in ruminants while local analgesia using lidocaine was used in some cases of atresia ani in lambs. In mares with rectovestibular fistula, the regional analgesia for surgery was achieved by caudal epidural analgesia using a 0.17mg/kg B.W. xylazine 2% (XylaJect,ADWIA A.R.E.) diluted with 4ml of 2% Lidocaine (0.22 mg/kg B.W.) and sterile saline to 10 ml.

Atresia ani was corrected by making circular incision of 2-3cm diameter through the skin covering the site of the anus (Figs.1&2). In cases of atresia recti, the blind end of the rectum was freed and moved caudally and fixed to the subcutaneously perianal tissues with four non penetrating catgut sutures No. I. The rectum was opened and the edges were sutured to the skin with interrupted sutures (Fig.3). Calf with more extensive atresia where the majority of the rectum was atretic and a natural channel to the anus was impossible, the blind end of the colon was found via a paramedian suprapubic exploratory laparotomy with translocation of the colon to the body wall existing as a colostomy (Fig.4).

Atresia ani with mal-interference or cases suffered rectal stricture after creation of an anal opening was treated by retraction and resection of the strictured portion with suturing of the viable rectum to the skin at the anus (Fig.5).

In cases of atresia ani et vulvi, the anal opening was firstly reconstructed via a circular incision against the seat of the anus while the vulvar lips were reconstructed through a midline incision against the seat of the vulva clearing the vaginal mucosa. The mucosal membrane on each side was sutured to the skin with simple interrupted suture pattern using silk No.1 (Fig.6).

In cases of anus vaginalis, the atretic anus was firstly patent then the fistula was repaired through either direct approach through the vulva or through a cutaneous transverse incision between the anus and vulva. The incision was further extended cranially and the adhesions around the fistula were dissected free. The rectal defect was closed transversely while the vaginal

defect was closed longitudinally (Figs.7&8).

Repair of rectovestibular fistula in mares was done after Adams et al. (1966) by direct approach through the rectum in standing mares leaving the anal sphincter and perineal body intact. The edge of the fistula where rectal and vestibular mucosa has healed together was completely incised in a circumferential manner. The margins of the fistula along the incision were removed (Figs.9 a&b).Closure was done in three lines of sutures using polygalactin 910 (Vicryle) No.1 in an interrepted pattern. The first line for closure of the defect was performed by incorporating three distinct layers in each suture. The later passed through the rectal submucosa, perineal fascia and vestibular submucosa on the cranial side of the fistula and then through the vaginal submucosa, perineal fascia and rectal submucosa on the caudal side. All sutures were preplaced, the ends were left long and tagged with hemostats (Fig.9c) after all sutures were placed, and they were tied singly to close the fistula. Any gaps were closed with additional sutures .The second line of sutures closed the rectal mucosa transversely with a continuous horizontal mattress suture while the third one closes the vestibular mucosa longitudinally with a simple continuous suture pattern using the same suture material.

Recent mucosal and complete rectal prolapse was reduced after lavage with a warm astringent solution and topical application of glycerine and lidocaine cream. After complete repelling the mass, the purse-string suture around the anus was applied to maintain retention (Fig.10).

Rectal polyp in a stallion and rectal leiomyoma in a buffalo were easily removed after ligation and division of the attachment to the rectal mucosa.

Postoperative cares.

Animals were kept on a laxative diet beside a systemic course of antibiotics for 3-5 days together with prophylactic doses of antitetanic serum for equine, sheep and goats.

Fig. (1) : Atresia ani in a male kid (A) and after reconstruction of the anal opening (B).

Fig. (2) : Atresia ani in one day old donkey (A) and after reconstruction of the anal opening (B).

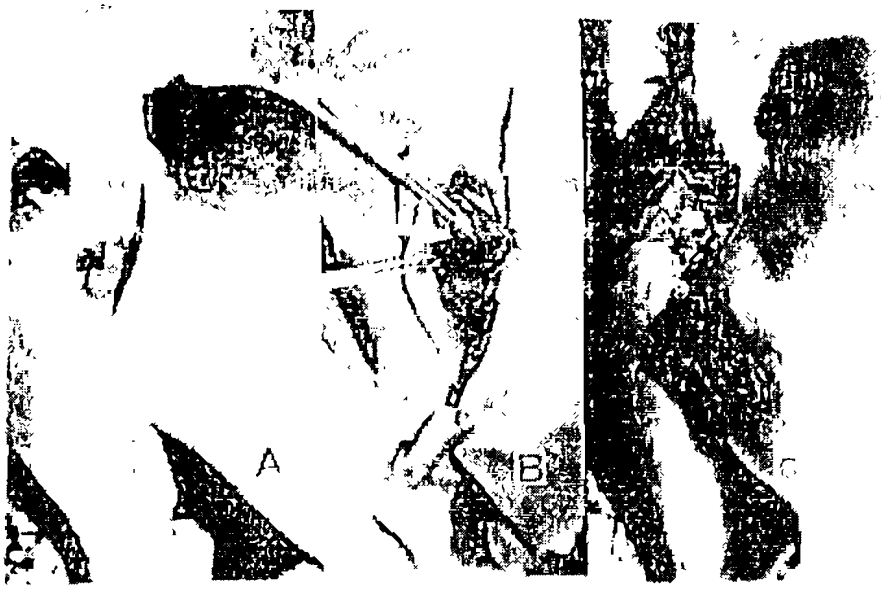

Fig.(3): Foal with atresia ani et recti without bulging at the anal scar (A), after deeper dissection and grasping of the rectum towards the anal orifice (B) and complete reconstruction of the anal opening with its withdrawal fixation of the rectum (C).

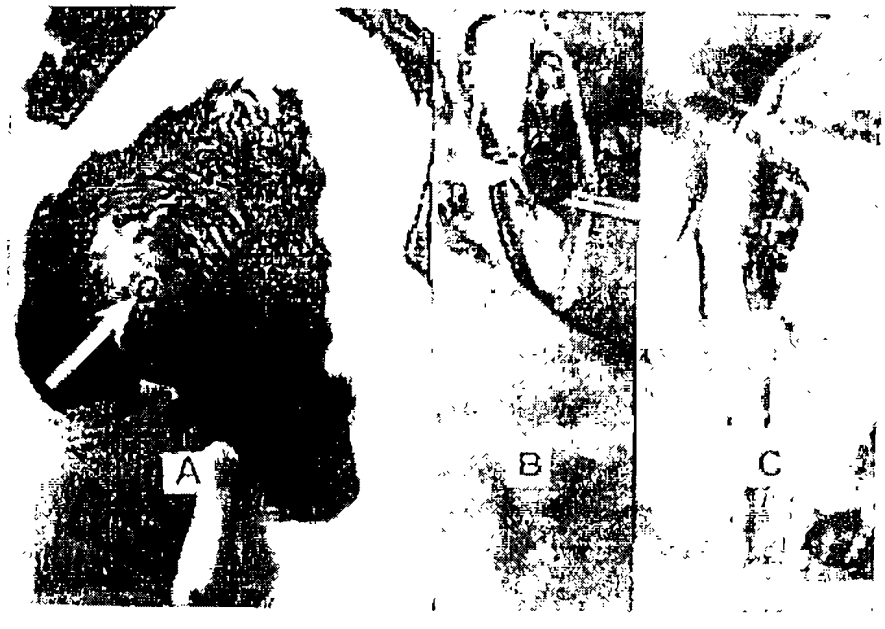

Fig.(4): Atresia ani with severely atretic rectum in a mixed breed calf .

Mal-interfered opening at the propsed site of anal opening (A), paramedian suprapubic exploratory laparotomy and exposure of the blind end of the colon (B) and opening and fixation of the colon to the laparotomy wound (C).

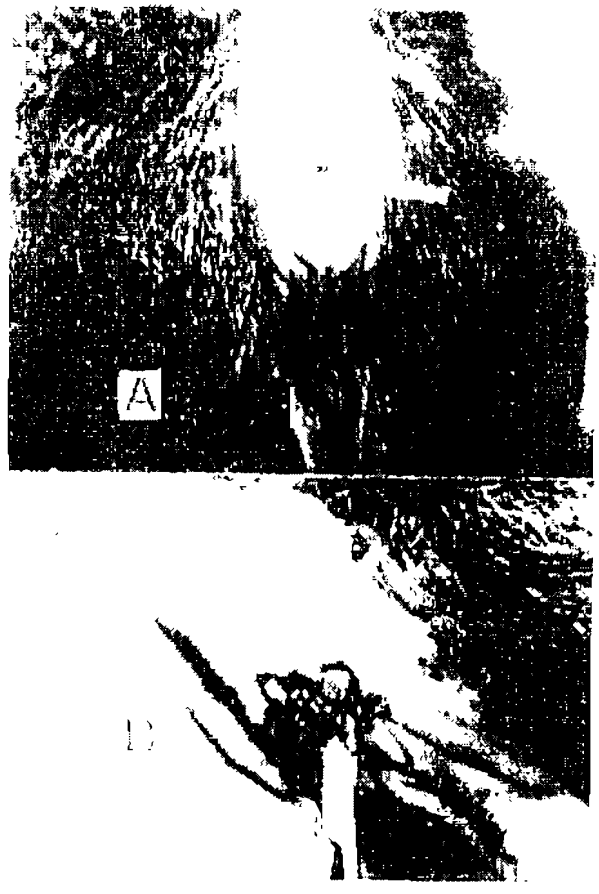

Fig.(5): Stricture of the anal opening in a female buffalo calf due to mal-interference after patent anal orifice (A) and after its reconstruction (B).

Fig.(6): Atresia ani et vulvi with the presence of a very fine opening (probe) discharging urine in newly born native breed calf (A) and after reconstruction of both anal opening and vulval lips (B).

Fig.(7): Malinterfered in a case of atresia ani and rectovaginal fistula with stenotic anal opening . Note the faecal matter voided through the vulva (A) and a catheter passed through the fistula (B).

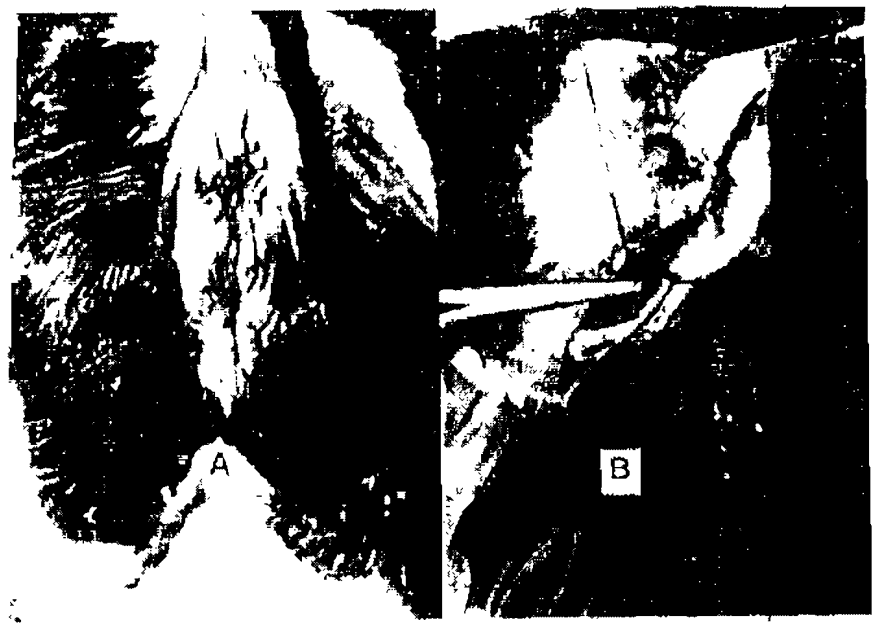

Fig.(8): The same case in fig. 7B after reconstruction of the anal opening (A) and closure of the fistula through the vulva (B) .

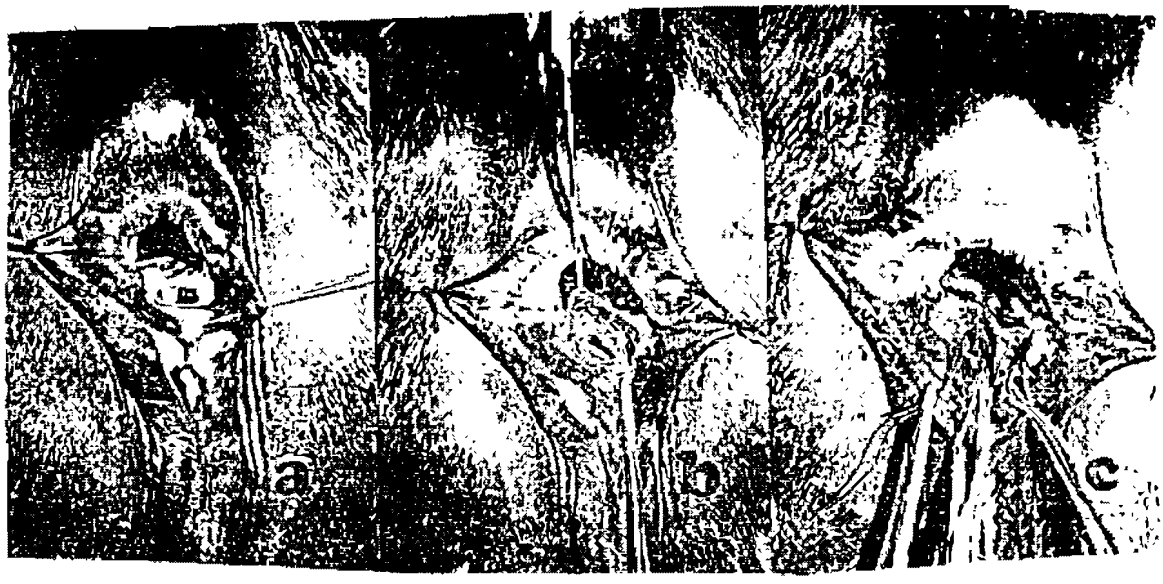

Fig.(9): (A) Rectovestibular fistula in a mare .(B) The entire margin of the fistula has freshly incised edge of rectal and vestibular mucosa.(C) Interrupted sutures of size 1 polygalactin 910 used to approximate the tissues in a transverse direction.

Fig.(10): Recent mucosal prolapse in a donkey (A) and after reduction and retention by purse-string suture (B).

RESULTS

The congenital ano-rectal affections recorded in the present work were atresia ani (24 cases), atresia ani et recti (4 cases) , atresi ani et vulvi (3 cases), atresia ani with tailessness (1case) and atresia ani with rectovaginal fistula (11 cases) (Table1).

Table (1): Congenital ano-rectal affections recorded in the present study.

Affections \ Animals	Lambs	Kids	Calves	Foal	Donkey foal	Total
Atresia ani	15	3	5	—	1	24
Atresia ani et recti	2	—	1	1	—	4
Atresia ani et vulvi	—	—	3	—	—	3
Atresia ani with tailessness	—	—	1	—	—	1
Anus vaginalis	6	—	4	—	1	11
Total number	23	3	14	1	2	43

Atresia ani was the common recorded ano-rectal malformation in the present work and is more prevalent in lambs than other domestic animals (table1). It was recorded in 24 male animals (15 lambs, 5 calves, 3 kids and a donkey foal). These animals were presented usually on the same day or the first day following parturition. The affected animals had a history of normal suckling after birth, but with time usually they became dull. The presented signs include tenesmus along with mild to severe abdominal distension, bulge beneath the tail during straining or abdominal palpation, indicating imperforated anus. All cases responded well to operation and the animals doing well passing meconium during the first 24 hours following surgery. Despite the absence of the anal sphincter, the operating animals were seen to defecate normally and growing well without complications (Fig.11). Two calves developed a stricture of the rectum which was re-operated with good results. Two lambs died 2 days after surgical interference. They showed signs of depression preoperation.

Atresia ani with hypoplasia of the penile body was recorded in a calf. The affected animal was presented with a small ill developed penile body with a stricture of the external orifice of the penile urethra. The calf was treated beside reconstruction of the anal opening, a urethrostomy was performed with satisfactory results (Fig.12).

Atresia ani et recti was recorded in four animals (2 lambs-a calf and a foal). The blind end

does not bulged out on applying abdominal pressure, however the end of the rectum was easily moved caudally and fixed to the subcutaneously perianal tissues in 3 cases. One calf had atresia ani with extensively atretic rectum which receive an early interference in a private practice for creation of an anal opening. Deep pelvic dissection was attempted however the distended end of the rectum could not located and natural channel to the anus was impossible.The blind end of the colon was found via paramedian suprapubic exploratory laparotomy which was sutured to the skin of the laparotomy wound. Follow up of the case revealed that the calf was died 5 days after operation.

Atresia ani with mal-interference was recorded in four calves. These animals suffered rectal stricture with progressive fibrosis of the induced opening, frequent straining and difficulty of defecation. Surgical correction by retraction and resection of the strictured portion with suturing of the viable rectum to the skin at the anus gave satisfactory results.

Atresia ani et vulvi was diagnosed in 3 native breed calves. These animals were presented 1-2 days after calving. One calf passed a thin stream of fluidy meconium while the others passed a thin stream of urine during straining from a narrow orifice of the distal end of the vulva. Careful examination revealed the absence of both anal opening and vulva. Complete recovery was obtained following reconstruction of both anus and vulva. (Figs. 13&14).

Atresia ani with rectovaginal fistula (anus vaginalis) was recorded in 11 animals (6 lambs, 4 calves and a donkey foal). The atretic anus was circumvented via an unnatural opening into the roof of the vagina. The faeces were voided through the vulva which showed faecal soiling, palpation of the fistula digitally from the vulva revealed that the fistula was approximately 2-3 cm from the external commisure of the vulva and about 1-2 cm. in diameter. The affected animals were up to 3-6 months old without showing any clear signs of illness; however there was a steady increase in their abdominal circumference and a slower growth rate than the littermates follow up indictes complete recavery (Fig15). A rare case of anus vaginalis that was recorded in 6 months old donkey foal with a history of defecation through the vulva (Fig. 16) showed that the rectum was atretic and represented by vulvar like opening into the vagina (Fig. 17). This was fixed into the reconstructed anal opening (Fig. 18).

Acquired ano-rectal affection as rectal prolapse, ano-rectal tears, rectovestibular fistulas, perirectal abscess, rectal polyp and rectal leiomyoma were recorded in the present study (Table 2).

Table (2): Acquired ano-rectal affections recorded in the present study.

Animals / Affections	Cow	Buffaloes	Stallion	Mares	Jbuttcys	Total
Rectal prolapse	—	2	—	1	12	15
Rectovestibular fistula	—	—	—	2	—	2
Ano-rectal tears	1	—	—	—	1	2
Perirectal abscess	—	—	—	1	—	1
Rectal polyp	—	—	1	—	—	1
Rectal leiomyoma	—	1	—	—	—	1
Total	1	3	1	4	13	22

Rectal prolapse was recorded in 15 animals (2 buffaloes, a mare and 12 donkeys).In recent cases the prolapsed mucosa was bright red in colour and non ulcerated while prolapse of a longer duration, the mucosa appeared solid, necrotic and traumatized. The affected animals suffered one or more of the condition that causes prolonged tenesmus as diarrhea, colic and the acts of parturition in buffaloes. Surgical reduction and retention under the effect caudal epidural anesthesia beside removal of the cause gave good results without recurrence (Fig.19).

Rectovestibular fistula was recorded in 2 mares. It occurs as a complication of the third degree rectovestibular lacerations repair. Clinical examinations revealed the presence of common opening between the rectum and vagina, faecal matter expelled through the vulva with signs of pneumovagina. The two cases were operated through a transrectal approach where the fistula was debrided and closed in three layers and without conversation into a third degree perineal lacerations. Follow up of the two cases revealed complete healing (Fig. 20).

Rectal tear was diagnosed in a mixed breed cow following a rough rectal palpation during examination. The lesion involved the dorsal aspect of the rectum. Proctorrhaphy through the anus under the effect of caudal epidural analgesia was done using continuous chromic catgut sutures and interrupted silk sutures for complete apposition gave good results (Fig.21).

Lacerated wound of the anus was recorded in a male donkey (Fig.22A). Surgical reconstruction was performed after through debridement (Fig.22B&C). First intention healing was obtained after removal of the skin sutures (Fig.22 D).

Perirectal abscess was diagnosed in a mare .The abscess was drained lateral to the anus under the effect of caudal epidural analgesia. Second intention healing was obtained 20 days after surgical interference (Fig.23) .

A non-neoplastic rectal polyp was diagnosed in a stallion. The lesion was pedunculated and hanged through the anus, traction of the tumor created a stalked polyp. The mass was easily excised under the effect of manual restraint and caudal epidural analgesia without recurrence. Histopathological examination represented by fibrous connective tissue infiltrated with rounded inflammatory cells (Fig. 24).

Rectal leiomyoma was seen in a buffalo. The tumor was firm lobulated, grayish in colour , not encapsulated and projected outside the rectal lumen. Microscopically the tumour consists of muscle bundles arranged in all direction and planes. The muscle fibers were spindle shaped and arranged parallel to each other .They had a ribbon-shapped nucleus with rounded ends(cigar shaped) (Fig.25). Surgical excision was curative without recurrence.

Fig.(11): Atresia ani in a buffalo calf (A), after making a circular incision and exposure of the rectum (B), complete reconstruction of the anal orifice (C) and after removal of skin stitches (D).

Fig.(12): Atresia ani with hypoplasia of the penile body in a mixed breed calf (A), after reconstruction of the anal opening (B) and urethrostomy (C&D).

Fig.(13) : Atresia ani et vulvi in one day old calf with the presence of pin point orifice discharging fluidy meconium (A&B) and after reconstruction of the anal opening and vulval lips (C).

Fig. (14) : Malinterference in a case of atresia ani of vulvi with stenotic anal opening and the urine passed from pin point opening in the distal end of the vulva (A) and after reconstruction of vulval lips and anal opening (B&C).

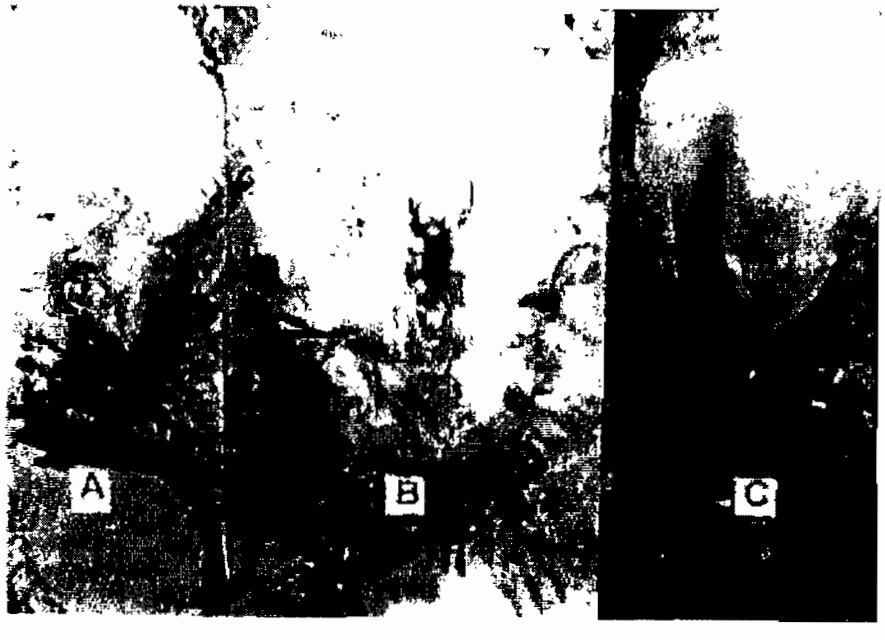

Fig.(15) : (A) Atresia ani with rectovaginal fistula in 4 months old sheep (A), reconstruction of the anal opening (B) and after removal of skin stitches (C).

Fig.(16) : Atresia ani with rectovaginal fistula in 6 months old she-donkey (A) and expelling of faecal matter through the vulva (arrow B).

Fig.(17): The same case in fig .16 after surgical site preparation (A). Note a perineal bulge and absence of a patent anus. The rectum separated from the atretic anus and open directly into the lumen of the vagina through a vulvar like opening (B) .

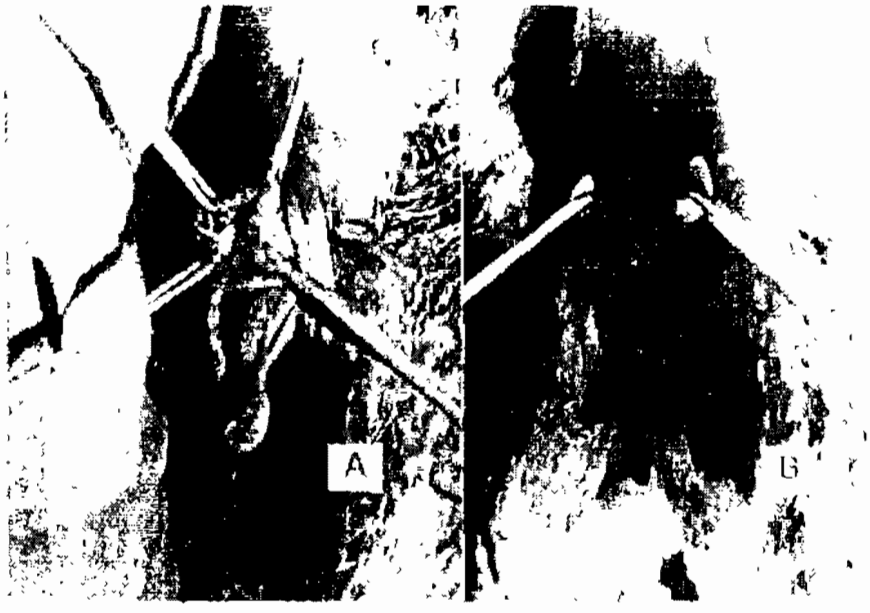

Fig.(18): The same case in fig. 16 where the the vulvar like rectum fixed into the anal wound (A) and after complete fixation of the rectum to the reconstructed anal opening (B).

Fig. (19): Complete rectal and vaginal prolapse in a she-donkey (A) and following reduction and retention using silk for the anal orifice and umbilical tape for vulvar lips .

Fig.(20): The same case in Fig.9 showing complete healing of the rectovestibular fistula.

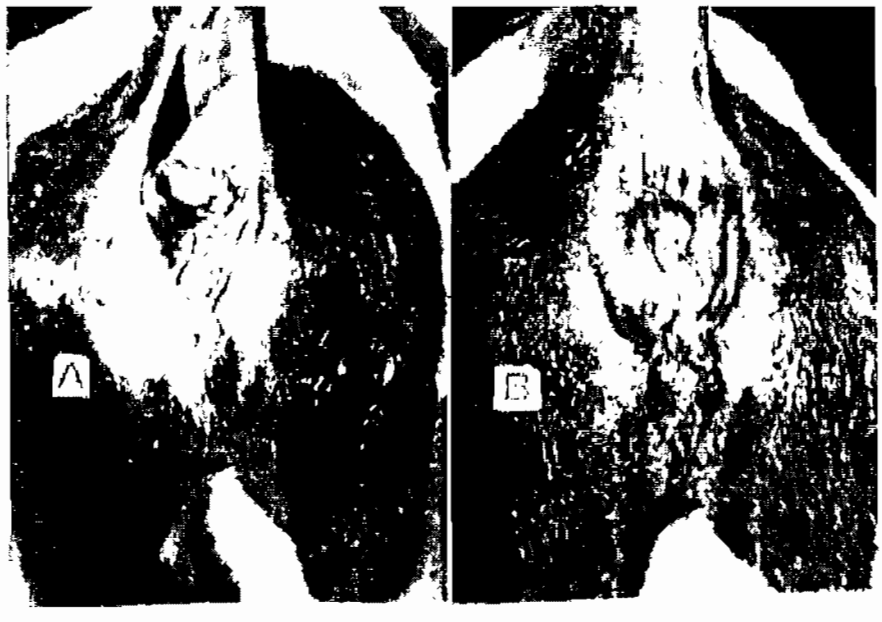

Fig.(21): Dorsal rectal tears in a mixed breed cow following rough rectal palpation (A) and after its reconstruction (B).

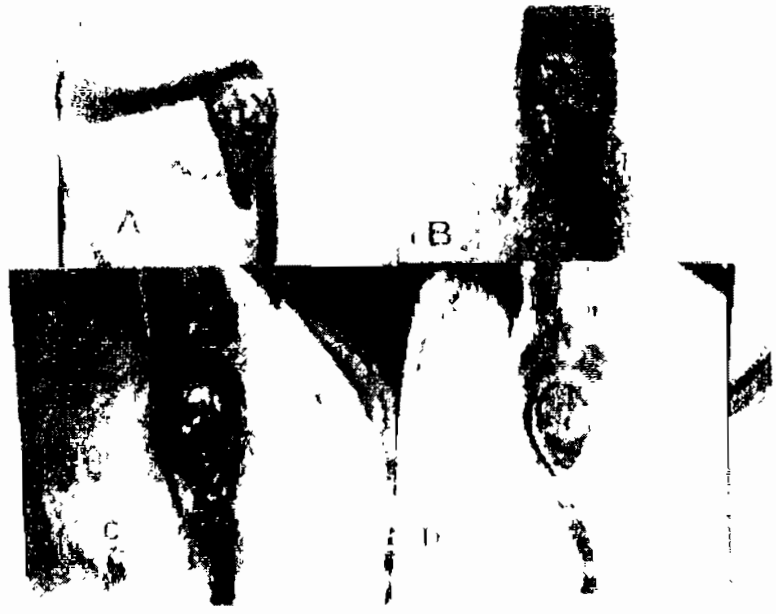

Fig.(22): Old lacerated wound of the anal orifice in a donkey (A) after its debridement and reconstruction (B&C) and complete healing (D).

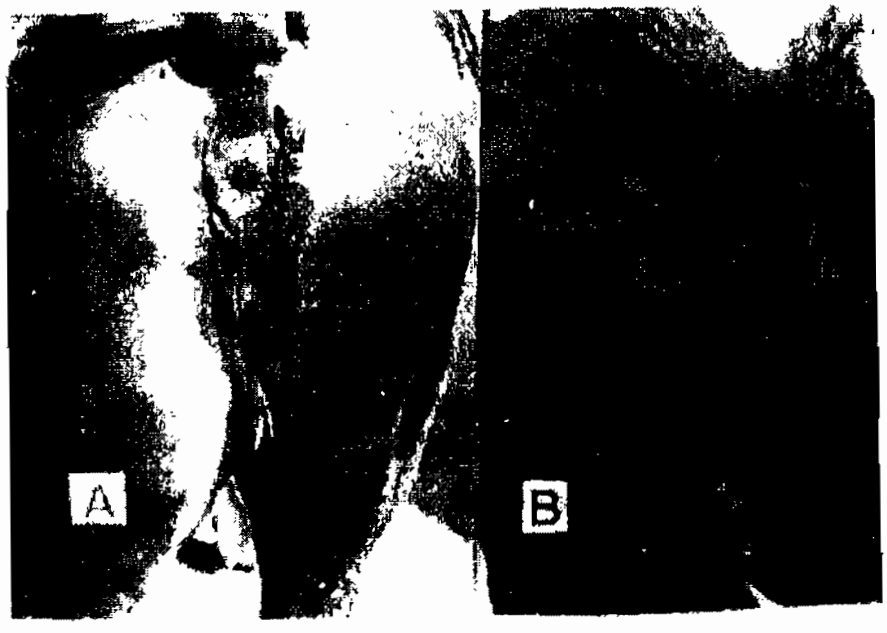

Fig. (23): Perirectal abscess in 5 years old mare (A) and after complete healing (B) .

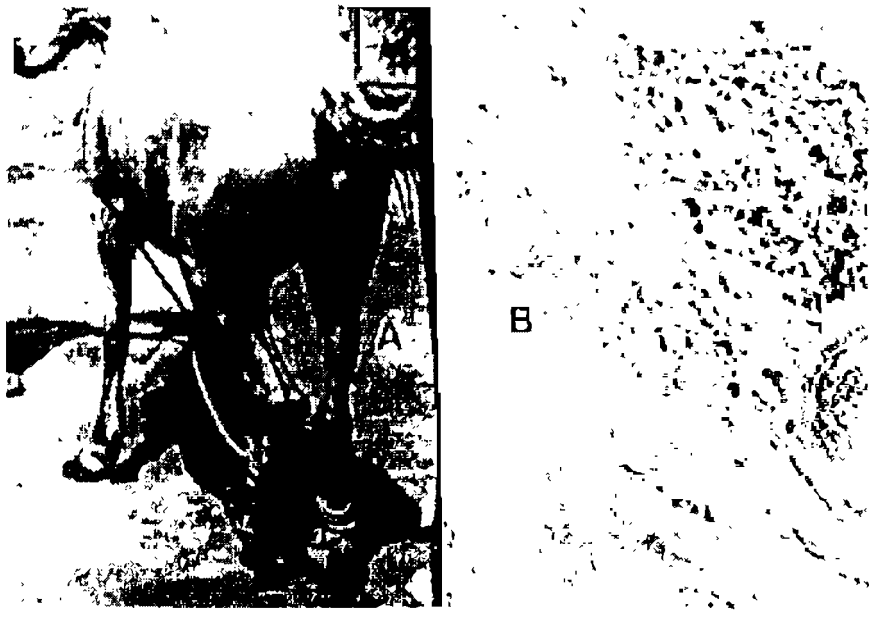

Fig. (24) : Non-neoplastic rectal polyp in a stallion (A) and its microscople pleture represented by fibrous connective tissues infiltrated with round inflammatory cells (H&E,x200) .

Fig.(25): Rectal leiomyoma in a buffalo (A), during its surgical removal (B) and the microscopic examination (C) revealed the presence of spindle shaped bundles of neoplastic smooth muscle fibers arranged in all directions and planes with cigar shaped nucleus (H&E, x 300).

DISCUSSION

Atresia ani was the most common congenital malformation recorded in the present work. It was more prevalent in lambs followed by calves and kids. Similar observations were recorded by **Dennis (1993) and Kandeel (2000)**. The presented clinical signs were similar to that reported by **Dreyfuss and Tulleners (1989)** which includes mild to severe abdominal distension, tenesmus and bulge beneath the tail. These animals were seen to nurse well after birth but with time usually they became dull and depressed. These signs were not observed in cases of atresia ani accompanied with rectovaginal fistula where the affected female animals were up to 3-6 months without showing clear signs of illness and surviving severeal monthes without diagnosis or treatment. These observations agreed with that mentioned by **Walker &Vaughan (1980); Singh et al. (1989) and Abdel Aal et al. (1992)**.

Atresia ani or atresia recti has been associated with abnormal chromosome or could be attributed to failure of the anal membrane to become perforated, failure of the bowel to be recanalized after solid cord stage of development and interruption of the fetal blood supply to the anus . **(Leipold et al., 1976; Dennis, 1979 and Noden & Delahunta, 1985)**.

Postoperative survival rate of animal with intestinal atresia was found to be related to early recognition, extent of rectal development and successful establishment of a patent intestinal tract. Moribund recumbent animals have a lower survival rate than those that are alert and able to stand **(Dreyfuss and Tulleners, 1989 and Hay, 1991)**. In case where the entire rectum was atretic, the prognosis was grave. Similar observation was recorded by **McIlwraith, (1984)** who added that if the end of the colon can not be located in the pelvic cavity, euthanasia is indicated.

Surgical correction of a patent anal opening must be done as early as possible to save the animal life especially in male animals. Reconstruction of the anal opening was successfully performed, defecation appeared to be normal without complications in the treated animals, despite the absence of an anal sphincter. These results were in agreement with that of **Misk et al. (1982) and Nigam et al. (1984)**.

Several congenital abnormalities including atresia recti, atresia vulvi, rectovaginal fistula and anury has been recorded in the present study accompanied the atresia ani. Similar cases were reported by **Dreyfuss & Tulleners (1989); Martens et al. (1995); Singh et al. (1996); Abd El-Wahed (2000) and Semicka (2001)**. Rectovaginal fistula occurs when there is abnormal development of the urorectal septum resulting in communication between rectum or descending colon and derivatives of urogenital sinus (**Noden & Delahunta 1985)**.

In cases of atresia recti, the caudal mobilization of the atretic rectum towards the anal orifice

was easily performed and without tension except in one calf in which the entire rectum was atretic and a natural channel to the anus was impossible. Translocation of the colon to body wall exiting as a clostomy but it is impractical. These findings were similar to that reported by **Martens et al. (1995)** who suggested that caudal mobilization of atretic rectum is restricted to 5cm defect.

Atresia ani either alone or associated with atresia recti or rectovaginal fistula was one of most rare ano-rectal affection recorded in foal, donkey foal and she-donkey. These affections have not been well documented in these animals. **Walker &Vaughan (1980) and Baker (1987)** mentioned that the congenital anomalies of the intestinal tract were rare in foals and may occure at any level.

Rectal stricture due to either mal-interference or following repair of atresia ani accompanied by progressive fibrosis of created anal opening was recorded in 4 calves. Surgical interference was carried out to relieve the stricture by retraction and resection of the strictured portion with suturing of the viable rectum to the skin at the anus. Similar cases were reported by **Singh et al. (1996) and Kandeel (2000).**

Atresia ani et vulvi was one of the most rare affection recorded in the present work. It was demonstrated in 3 calves where reconstruction was simply performed. A similar case was recorded in lamb by **Lakshmipathy et al. (1983).**In Manx cat in conjunction with absence of the caudal vertebrae by **Noden&Delahunta(1985)** and in calves by **Abdel-Wahed (2000) and Kandeel (2000).**

Mucosal and complete rectal prolapse was diagnosed in the present study. The higher number was recorded in donkeys. Similar result was obtained by **Kandeel (2000).** The condition was a sequel to tenesmus of many causes as constipation and diarrhea or increased intra-abdominal pressure. Similar causes were reported by **Turner & Fessler (1960); Hofmeyr (1988) and Freeman and Martin (1992).** On the other hand **Sanders-Shamis (1985)** and **Ayres & Wagner (1994)** mentioned that in rare cases, perirectal abscesses or tumors has been linked with tenesmus and prolapse. Higher successful rates were obtained following early management of rectal prolapse by replacement and retention with a purse-string suture.

Rectovestibular fistula was recorded in two mares, the condition followed repair of third degree rectovestibular laceration. This agreed with that reported by **Colbern et al. (1985)** who said that their incidence was related to faecal consistency at the time of surgery. Several techniques have been recommended for repair of rectovestibular fistula. Direct repair of the fistula through the vulva in anaesthetized mare has been reported **(Hilbert, 1981).** Most surgeons prefer to convert them to third degree perineal laceration and repaired them by one of the standard method

(Aanes, 1988 and Delknap&Nickels, 1992). For deep (cranial) fistula,a perineal body transection has been utilized through a transverse skin incision equidistant between the anus and dorsal commissure of the vulva with dissection cranially through the perineal body to the fistula **(Aanes,1988 and Trotter, 1993)**.

During the last years the rectovestibular fistula have been repaired with a trans-rectal approach. This technique was firstly described by **Mckinnon et al., 1991)**. This same technique was also described by **Adams et al. (1996)**. This approach was applied for repair of two cases of rectovestibular fistulas in the present work where the entire margin of the fistula was debrided and closed in three lines and without conversion into a third degree perineal lacerations. This approach leaving the perineal body and anal sphincter intact, this is leading to less postoperative swelling and pain. The fistula was also closed in transverse direction to minimize tension and stricture in the rectum **(Adams et al., 1996 and Huber, 1998)**. Moreover, **Adams and Fessler (2000)** recommended the conversion of the fistulas to third degree perineal lacerations only when the fistulas were caudal and only a thin strip of tissue separates the fistula from perineum.

Regional anesthesia for repair of rectovestibular fistula was achieved by caudal epidural analgesia using xylazine-lidocaine combination provided a rapid onset of analgesia and duration of action up to 5 hours without interference in the motor control of the limbs **(Grubb et al.,1992)**.

Dorsal tear of the rectal mucosa was recorded in a cow as a result of rough rectal palpation during examination. Epidural anaesthesia relaxes the rectum and anal sphincter where proctorrhaphy through the anus was performed as described by **Singh et al. (1996)** who added that rectal tears, primarily due to trauma are rarely reported in ruminants. The most common causes of rectal injuries in horses are palpation per rectum, enemas, meconium extraction by forceps and dystocia **(Arnold et al., 1979; Reece, 1981; Stauffer, 1981 and Rick, 1980)**.

Perirectal abscess have been rarely reported in adult horses **(Sanders-Shamis, 1985 and Freeman & Martins, (1992)** and have been reported only once in an American Miniature horse filly **(Ayres and Wagner, 1994)**. The cause of perirectal abscess is unknown. Abscesses in this area may develop secondary to rectal tears or other mucosal trauma or from gravitation of an abscess in the gluteal muscles into perirectal tissues **(Sanders-Shamis, 1985 and Ayres & Wagner, 1994)**. Of the mare reported here had no evidence of an injection-site abscess in the gluteal muscles and had a history of rectal irritation (diarrhea).

The term polyp is used as a growth description for any lesion that projects into the bowel lumen. A large polyp or any non-ploypoid mass may be referred to as a tumour **Owen & Kelly (1996)**. Non-neoplastic polyp of the rectal mucosa was recorded in a stallion. The lesion was pedunculated and hanged through the anal opening. Traction on the mass created a stalked polyp.

Similar lesion was recorded by **Owen & Kelly (1996) and Magee et al. (1997)** who added that non-neoplastic polyps represent about 90% of all epithelial polyps.

Polyps may be formed as the result of abnormal mucosal maturation, inflammation or architecture. These polyps are non-neoplastic and do not have malignant potential. The majority of intestinal polyp occur sporadically, particularly in the colon and increase infrequency with age **(Van Kruining, 1995,Watt et al., 2001; Kumar, et al. 2003 and Vegad&Katigar, 2004)**.

Rectal leiomyoma was diagnosed in a buffalo. The tumour was firm, lobulated and not encapsulated. The lesion was early excised after ligation and transection of the attachment to rectal mucosa. Similar lesion has been reported in a 10 years old cow by **Saldu and Chineme(1979)** and in horse by **Hanan and Robertson (1983) and Kasper and Doran (1993)** . Surgical excision was curative because of the tumor's discrete nature and lack of invasiveness **(Clem et al., 1987; Hulland , 1989 and Sastry , 2002)**.

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الملخص العربى

التدخل الجراحى لبعض إصابات الشرج والمستقيم فى حيوانات المزرعة

جمال إبراهيم عبد الفتاح قروف

قسم الجراحة والتخدير والأشعة - كلية الطب البيطرى - جامعة المنصورة

تتعرض حيوانات المزرعة حديثى الولادة للعديد من الإصابات الخلقية والمكتسبة لفتحتى الشرج والمستقيم طوال حياتها . ولذلك أجريت هذه الدراسة بغرض توصيف بعض الإصابات الجراحية الشائعة والنادرة الحدوث للشرج والمستقيم فى حيوانات المزرعة . وكذلك القاء الضوء عليها ووصف لبعض الطرق الجراحية المناسبة لعلاج هذه الإصابات .

تم تسجيل ٦٥ إصابة للشرج والمستقيم فى حيوانات المزرعة المختلفة وكان عددها كالآتى : ٢٣ من العبران . ٣ من الماعز . ١٤ من العجول . مهر واحد . جحشين . ٣ أفراس . حصانان . بقرة واحدة . ٣ جاموسات . ١٣ من الحمير (٤ أتن (أنثى الحمير) . ٩ حمير) . وردت هذه الحالات الى قسم الجراحة بالمستشفى البيطرى التعليمى بشها والتابع لكلية الطب البيطرى - جامعة المنصورة أو جُمعت أثناء القوافل العلاجية بقرى محافظة الدقهلية خلال ٣ أعوام من ابريل ٢٠٠٣ وحتى مارس ٢٠٠٦ . تم أخذ تاريخ الحالة بالاضافة الى الفحص السريرى . وقد وجد أنه كاف لتشخيص معظم هذه الحالات ومع هذا احتاجت بعض الحالات الى التدخل الجراحى الاستكشافى لتأكيد التشخيص. هذا بالإضافة الى التحليل النسيجى لورمين داخل المستقيم تم تسجيلهما خلال هذه الدراسة.

وقد لوحظ من هذه الدراسة ان الإصابات الخلقية للشرج والمستقيم تشمل غياب فتحة الشرج (٢٤ حاله)، غياب فتحتى الشرج والمستقيم (٤ حالات)، غياب فتحتى الشرج والمهبل (٣ حالات)، انسداد فتحة الشرج المصاحب بغياب الذيل الخلفى (حاله واحده)، الانسداد الشرجى المصاحب بالناسور الشرجى المهبلى (١١ حاله)، اما الاصابات المكتسبة لفتحتى الشرج والمستقيم فكان اهمها تدلى المستقيم (١٥ حاله)، تمزق المستقيم والشرج (حالتان) خراج بجانب المستقيم (حالة واحدة)، ناسور شرجى مهبلى مكتسب بعد التدخل الجراحى لعلاج تهتكات العجان من الدرجه الثالثة (حالتان) أورام المستقيم (حالتان).

وقد أظهرت الدراسة أن العدد الأكبر من الإصابات الخلقية للشرج والمستقيم سجلت فى العبران تلاها العجول بينما سجل العدد الأكبر من الإصابات المكتسبة فى الحمير. كذلك سجلت هذه الدراسة بعض الاصابات النادرة الحدوث للشرج والمستقيم مثل انسداد الشرج فى جحش ومهر، غياب فتحتى الشرج والمهبل فى العجول حديثة الولادة، غياب فتحة الشرج مع وجود ناسور بين المستقيم والمهبل فى إتان (أنثى حمار) هذا بالإضافة لأورام المستقيم.

تم عرض ومناقشة الطرق الجراحية المختلفة لتعديل وعلاج هذه الإصابات وقد تم الحصول على مردود طيب لكل هذه الحالات فيما عدا الحالات التى كانت تعانى من غياب فتحة الشرج فى الذكور وعرضت بالمستشفى وهى فى حالة سيئة و العجل الذى كان يعانى من قصر شديد فى المستقيم.