AN ABATTOIR SURVEY OF FEMALE GENITAL DISORDERS OF CAMELS (CAMELUS DROMEDARIES) IN KALYOUBIA , EGYPT

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ABSTRACT

This study was carried out on 500 genitalia of slaughtered she camels collected from Benha and Toukh abattoirs, Kalyoubia Governorate to identify the incidence of pathological affections and describe both gross and microscopic pictures of each one. One hundred and thirty cases of different pathological conditions were recorded with an incidence of 26 %. According to the histopathological examination, these affections were classified into ovarian affections (10.4 %), oviductal affections (2.8 %), uterine affections (13.2 %), cervical affections (0.4 %) and vaginal affections (1.4 %). Cystic ovaries were the commonest ovarian lesions. Follicular cysts, hemorrhagic cysts, luteal cysts, dermoid cysts and paraovarian cysts were detected. In addition, two cases of hypoplastic ovary and one case of arrhenoblastoma were also recorded. The uterine pathological conditions were mostly inflammatory in nature and represented by acute catarrhal endometritis, chronic catarrhal endometritis, acute haemorrhagic endometritis, suppurative endometritis and chronic cystic endometritis. Moreover, 5 cases of uterine neoplasms including 2 leiomyoma, 1 lipoma and 2 adenocarcinoma were diagnosed. The pathological changes in both cervix and vagina were the most lowest affections and they were mainly inflammatory in reaction.

INTRODUCTION

Reproductive disorders in camels especially the she camel are of great importance in camelidae industry. They are usually associated with repeat breeding, early embryonic death, fetal loss and abortion. Repeat breeding is one of major reproductive problem among she camel which mainly due to ovulation failure (42). Ovarian lesions particularly ovario-bursal adhesions and cystic degeneration in ovaries were responsible for great number of long standing infertility problems in farm animals including she camels (27,32,44). The cystic ovarian degenerations of she camel included follicular cysts, luteal cysts, hemorrhagic cyst, cystic corpora lutea and paraovarian cysts (9,17). Ovarian hypoplasia , characterized by absence of ovarian follicular activity due to genital and chromosomal abnormalities, was also previously reported among she camel (44).

The incidence of early embryonic death in dromedary was high reaching 23 % and suggested due to many factors including uterine pathological conditions. The uterine lesions were mostly inflammatory in nature and catarrhal endomteritis was the commonest recorded pathological condition in she camel (13, 20, 22,37). Moreover, metritis, uterine fibrosis, cysts, abscess and uterine neoplasm considered as the most acquired uterine lesions resulting in infertility in she-camel (22,39, 41, 43,45).

The present study was undertaken to record the incidence of the common pathological lesions in the genital tract of female camels slaughtered in abattoir at Kalyoubia governorate as well as to describe the gross and histopathological changes in each lesions.

MATERIAL AND METHODS

Five hundreds genital tracts of sexually mature female camels slaughtered in Benha and Toukh abattoirs, Kalyoubia governorate were collected during the period extended from April, 2002 to April, 2004. These collected genitalia were grossly examined and then small tissue specimens from different parts including ovaries, oviducts , uterus, cervix and vagina of these genitalia were taken and rapidly fixed in 10 % neutral buffered formalin. After proper fixation, a thin paraffin sections were routinely prepared and stained with hematoxylin and eosin for histopathological examination according to Drury and Wallington (11).

RESULTS

The incidences and percentages of pathological conditions of different parts of female genital tract of examined she camel slaughtered at Kalyoubia (Benha and Toukh) abattoirs were illustrated in table 1.

According to both gross and microscopical findings, the recorded lesions of examined genitalia of she camel were classified into;

I-Ovarian lesions:

1-*Follicular cysts*:- Follicular cysts were seen in 26 cases of the examined ovaries of she camels (5.2 %). Macroscopically, they appeared either single or multiple cysts on the ovary, but, they were found to be unilateral in all examined cases. Their diameters were ranged from 0.5-4.5 cm and their walls were thin , tense , transparent or semitransparent and had a clear congested blood capillaries on their surfaces, especially in cysts of large diameter. Meanwhile, the cysts of small size, less than 1.5 cm in diameter, had partially opaque, thick white fibrous walls. The cut section of the thin walled cysts revealed yellowish serous fluid, while those of thick wall showed viscous or gelatinous yellow substance. Microscopically multiple cysts of various sizes formed from cavities contained homogenous eosinophilic secretion with absence of the ova were detected. Most of these cysts have thick vascular connective tissues wall and lined by many layer of granulosa cells (Fig. 1). Moreover, some of these cysts especially larger ones resulted in pressure atrophy of the adjacent ovarian tissues.

2-*Hemorrhagic cysts* :- Seven cases of hemorrhagic cysts were observed in the examined ovaries of she camels (1.4 %). Grossly, these cysts represented as single small cyst (0.5 – 2 cm in diameter) contained bloody fluid or clotted blood and enclosed with thick wall. Microscopically, three different types of haemorrhagic cysts were observed in the examined ovaries. The first type had the same characters as an ordinary cystic graffian follicle with the presence of extravasated blood in lumen (Fig. 2). The other type had a connective tissue wall infiltrated with large amount of brown granules of hemosiderin pigments and the lumen was filled with free or clotted blood with small areas of organization (Fig. 3). In the third type, the wall of the cyst was very thick and infiltrated with plasma cells and haemosiderin pigments and the blood clots in lumen were replaced by granulation tissues
(Fig. 4).

3-*Luteal cysts*:- Luteal cysts were recorded in 5 genitalia of examined she camels (1.0 %). Macroscopically, these cysts were mostly spherical and bulging on the surface of the examined ovary. They were single or multiple and unilateral in all cases. Their

diameters ranged from 2.5-3 cm and their walls usually thick, firm and grayish yellow in colour. Moreover, these cysts

Table 1: Incidence of different pathological affections of genital tract of female camels slaughtered at Benha and Toukh abattoirs, Kalyoubia Governorate

Pathological condition	Number of affected cases	Total Number of examined cases	Percentage from examined cases %	Percentage from affected cases %
Ovarian lesions				
Follicular cysts	26	500	5.2	20
Hemorrhagic cysts	7	500	1.4	5.38
Luteal cysts	5	500	1.0	3.85
Dermoid cysts	2	500	0.4	1.54
Paraovarian cysts	9	500	1.8	6.92
Hypoplasia of ovary	2	500	0.4	1.54
Arrhenoblastoma	1	500	0.2	0.77
Total ovarian lesions	52	500	10.4	40
Oviducal lesions				
Hydrosalpinx	1	500	0.2	0.77
Acute catarrhal salpingitis	3	500	0.6	2.3
Total oviductal lesions	4	500	2.8	3.08
Uterine lesions				
Acute catarrhal endometritis	32	500	6.4	24.61
Chronic catarrhal endometritis	11	500	2.2	8.46
Acute haemorrhagic endometritis	2	500	0.4	1.54
Suppurative endometritis	11	500	2.2	8.46
Chronic cystic endometritis	5	500	1.0	3.85
Leiomyoma	2	500	0.4	1.54
Lipoma	1	500	0.2	0.77
Adenocarcinoma	2	500	0.4	1.54
Total uterine lesions	66	500	13.2	50.77
Cervical lesions				
Acute catarrhal cervicitis	2	500	0.4	1.54
Total cervical lesions	2	500	0.4	1.54
Vaginal lesions				
Vaginitis	3	500	0.6	2.30
Haemorrhage	3	500	0.6	2.30
Total vaginal lesions	6	500	1.2	4.60
Total female genital affections	130	500	26	100

contained yellowish viscous or gelatinous material. Microscopically, the wall of cysts formed from small theca-luteal cells and fat containing granulosa cells. They

contained homogenous eosinophilic structureless substance mixed with some luteal cells in the lumens.. Moreover, pressure atrophy of the ovarian structure was also found in some examined cases.

4-*Dermoid cysts*:- two cases of ovarian dermoid cysts were recorded (0.4 %). Macroscopically, these cysts were rounded, 2.5 - 3.2 cm in diameter, grayish white in color, and had thick firm wall. Cut section of such cysts revealed presence of hairs mixed with greasy brownish material in their lumens. The histopathological examination revealed that, these cysts were lined by stratified squamous epithelium, under which there was a thick layer of fibrous connective tissue containing bundles of smooth muscles, hair follicles with cystic sebaceous and sweat glands (Fig. 5). Moreover, the lumen of cyst revealed large amount of hairs (Fig. 6).

5-*Paraovarian cysts*:- 9 cases of paraovarian cysts were recorded in the examined female camelidae genitalia (1.8 %). Grossly, the cysts were unilateral and found in mesovarium. These cysts were irregular in shape, 1.2-3.3 cm in diameter, transparent, had thin wall and contained clear watery fluid. Microscopically, these cysts consisted of muscular wall contained congested blood vessels and capillaries and lined by simple cuboidal epithelium. Moreover, pressure atrophy of adjacent ovarian tissues was also observed.

6-*Hypoplasia of the ovary*:- Two cases of partial ovarian hypoplasia were observed in examined ovaries of she camels (0.4%). Macroscopically, the ovaries were smaller in size, firmer in consistency and contained very small follicles on the surface of non affected part. Microscopically, excessive fibrous connective tissue proliferation with complete absence of follicular or luteal developments were the characteristic features of hypoplastic ovary (Fig. 7).

7-*Arrhenoblastoma*:- One case of arrhenoblastoma was recorded among examined ovaries (0.2 %). Gossly,the neoplasm appeared as small whitish firm, spherical mass attached to the ovary by stalk. Microscopically, the neoplasm formed from interlacing bundles of polymorphic cells, mostly spindle in shape (Fig.8). These neoplastic cells had large hyperchromatic nuclei. Tubules and cords like structures of variable size lined by cuboidal cells with rounded nucleus and vacuolated eosinophilic cytoplasm were detected in between the spindle neoplastic cells (Fig. 9). Moreover, fine reticular frame stroma was also noticed.

II-*Oviductal lesions*:

1-*Acute catarrhal salpingitis*:- Three cases of acute catarrhal salpingitis were detected (0.6%). Macroscopically, the oviduct was enlarged in size and the mucosa

was hyperemic and covered with mucous exudate. Microscopically, hyperplasia of the lining epithelium and congestion of blood vessels with mononuclear inflammatory cellular infiltration of lamina propria were noticed (Fig. 10). Moreover , the lumen of these oviducts were filled with homogenous eosinophilic structureless substance mixed with desquamated epithelium.

2-*Hydrosalpinx*:- One case of hydrosalpinx was detected among the examined genitalia of she-camels (0.2 %). Macroscopically, the affection was unilateral and the oviduct was enlarged and distended with clear watery fluid. The mucosa was thin and showed congested blood vessels.

Histopathologically, cystic dilatation of the lumen with flattening of the lining epithelium of oviduct were seen. Inflammatory edema of the wall of oviduct was also found.

III-*Uterine lesions:*

1-*Acute catarrhal endometritis*:- 32 cases of acute catarrhal endometritis were recorded (6.4%). Grossly, the uterus was enlarged and their mucosa was severely congested and edematous (Fig. 11). Multiple areas of petechial hemorrhages in addition to presence of thick mucoid turbid exudate on the endometrium were also seen. The histopathological examination revealed congestion of endometrial blood vessels and lymphocytic cellular infiltration with edema in the mucosa and submucosa (Fig. 12). Alternative areas of desquamation and hyperplasia of lining epithelium of endometrium with degeneration of endometrial glands were seen. Thrombosis of some endometrial blood vessels with fibrinoid degeneration of connective tissues were found. Moreover, multiple areas of hemorrhages mixed with brown granules of hemosiderin pigments in the mucosa were also detected.

2-*Acute hemorrhagic endometritis*:- Two cases of acute hemorrhagic endometritis were recorded (0.4%). Macroscopically, the uterus was enlarged and the mucosa was severely congested and dark red in colour. Moreover, blood tinged thick exudates in the uterine lumen was also found. Microscopically, necrosis of the lining epithelium of endometrium, congestion and thrombosis of the endometrial blood vessels together with the presence of multiple areas of extravasated erythrocytes infiltrated with inflammatory cells in the endometrium were found (Fig. 13). Moreover, focal areas of hemosiderosis were also detected.

3-*Suppurative endometritis*:- Eleven cases of acute suppurative endometritis were recorded (2.2%). Macroscopically, the uterine mucosa was congested and covered with small amount of thick creamy whitish purulent exudates.

Microscopically, accumulation of inflammatory cells mainly neutrophils in the lumen of uterus and uterine glands with severe congestion of blood vessels and destruction of some endometrial glands were prevalent. In some examined cases, fibrous connective tissues proliferation in between the myometrium was also detected.

4-*Chronic catarrhal endometritis*:- Eleven cases of chronic catarrhal endometritis were observed (2.2%). Grossly, the endometrium was thickened and corrugated. Hisopathologically multiple polypoid like projections or diffuse thickening of endometrial mucosa due to fibrous connective tissue. Proliferation and chronic inflammatory cells infiltration mostly macrophages, lymphocytes and plasma cells were detected. Vacuolar degeneration of the lining epithelium of endometrial glands was also seen. Moreover in few cases, some endometrial glands showed necrobiotic changes and replaced by fibrous connective tissues.

5-*Chronic cystic endometritis*:- Five cases of chronic cystic endometritis were noticed (1.0%). Macroscopically, cysts of varying sizes filled with yellowish fluid were seen on thickened endometrium. The microscopical examination revealed cystic dilatation of some endometrial glands lined by flattened epithelium and contained eosinophilic homogenous structureless material. Fibrous connective tissues proliferation in the endometrium mainly around the endometrial glands was seen (Fig. 14). Moreover, severe inflammatory cellular infiltration of the endometrium mostly macrophages, lymphocytes and plasma cells were also recorded.

6-*Leiomyoma*:- Two cases of leiomyoma originated from myomerium were recorded in examined uterus (0.4%). The neoplasm appeared grossly as large firm, pinkish-brown, circumscribed pedunculated single mass attached to the wall of uterus by stalk. Microscopically, a neoplastic mass originated from the myometrium was observed (Fig. 15). This neoplastic mass was formed from bundles of smooth muscles running in various direction and interlaced with each other (Fig. 16). The nuclei of neoplastic cells were cigar shaped and had rounded blunt ends. Moreover, minimal stromal connective tissue was found.

7-*Lipoma*:- One case of lipoma was recorded in the examined uterus of she camel genitalia (0.2%). Grossly, the neoplasm appeared as multilobulated rounded soft whitish pedunculated mass attached to the serous coat.

Microscopically, the neoplastic cells were well differentiated resemble to the normal fat cells but differ in size and irregular in shape (Fig. 17). Moreover, these neoplastic cells arranged in lobules and separated by vascular thin connective tissues septa.

8-*Adenocarcinoma* :- Two cases of malignant neoplasm of endometrium were recorded (0.4%). Grossly, the neoplasm found in uterine horn which was greatly thickened and showed firm whitish rounded masses which leading to narrowing of the uterine lumen. Cut section of this part revealed variable sized cysts contained yellowish fluid. Histopathologically, the recorded adenocarcinomata were of cystic type and evidenced by presence of many cystic like structures. These cysts were of variable sizes and were round , oval or irregular in shape lined by two or multiple layers of neoplastic cells which had abundant cytoplasm and large vesicular or hyperchromatic nuclei with few mitotic figures (Fig.18). Multiple solid masses resulting from infiltration of neoplastic cells in abundant connective tissues stroma were observed. Moreover, accumulation of homogenous eosinophilic secretion in lumens of some dilated cysts was also noticed (Fig. 19).

VI-*Cervical lesions*:

1-*Acute catarrhal cervicitis*:- Two cases of acute catarrhal cervicitis were seen (0.4%). Macroscopically, the cervix was enlarged and the mucosa was edematous, congested and covered with yellowish or whitish viscous exudate. Histopathologically, congestion of blood vessels and desquamation of the lining epithelium with hyperplasia of cervical glands were detected. Focal areas of edema and hemorrhages with inflammatory cellular infiltration of cervical mucosa and submucosa mostly lymphocytes were noticed (Fig. 20).

V-*Vagina*:

1-*Vaginitis*:- Three cases of vaginitis were detected in examined female camel genitalia (0.6%). Macroscopically, the vaginal mucosa was severely swollen and congested. Microscopically, congestion of blood vessels,
desquamation of the lining epithelium and edema of submucosa with inflammatory cellular infiltration mostly lymphocytes were detected. Moreover, focal aggregation of mononuclear inflammatory cells mainly lymphocytes was seen in one case.

2-*Hemorrhages*:- Three case of vaginal hemorrhages were recorded among examined female camel genitalia (06%). Macroscopically, the vaginal mucosa was dark red in colour and showed multiple small areas of hemorrhages. The condition characterized microscopically by presence of multiple areas of extravasation of erythrocytes under the lining epithelium of vaginal mucosa.

DISCUSSION

Reproductive disorders in she camel is rapidly becoming a major part of the veterinary care provided to the camelidae especially when dealing with genetically

superior animals. The incidence and pathology of the genital tract affections of she camel could provide a valuable information that can be used in evaluation of animal reproductivity. The present study revealed that the total incidence of female genital affections was 26 % of all examined genitalia of she camels (table, 1). This incidence was nearly similar to that recorded in Egypt by Heikal (24) who found that the incidence of genital tract affections of she camel was 37.04 % , while lower incidence (4.49 %) was reorded in Nigeria by Ribadu (35).

The present study indicated also that the uterine affections were the most frequent estimated affections , while the ovarian lesions were found the second , followed by the lesions of the vagina, oviduct and cervix. These findings were in a harmony with those of previous authors (18,24,37).

Concerning ovarian affections in she camels, the total incidence of the ovarian lesions was 10.4 % of all examined cases and represented by 40 % of the total genital affections. Previous studies reported that the cystic conditions of the ovary represent the major disorders of the total ovarian affections. Incidence of ovarian cysts in she camels varied from 0.82 % (38), 0.9 % (16,32), 1.02 % (33), 3.45 % (34), to 3.39 % (18). Cystic conditions of ovary are of two types: cysts within the ovary itself (ovarian cysts) such as follicular or luteal cysts and cysts outside the ovarian tissues known as para-ovarian cysts. Although follicular or luteal cysts have been described in dromedary (14,17,41) and Bactrian camels (9), but the cystic ovary in she camels is not well documented as in cattle or other domestic animals. In fact the term " cystic ovaries " does not always apply to camelidae because a large proportion (30- 40 %) of females develop some forms of follicular cysts if not bred given that ovulation in these species is induced (40). While the actual mechanism of development of cystic ovaries in she camels is not completely known, Hegazy *et al.*, (23) concluded that the deficiency of LH suge may be considered the main cause of cystic ovaries in the female camels. Ovarian cysts were classified in this study according to the structure involved and their appearance. Follicular cysts were detected in 20 % of the total affected cases and represented 5.2 % of all examined cases. This incidence of follicular cysts was higher than that of recorded luteal cysts in the present work (1 %). The luteal cysts originate from luteinization of follicular cyst, which occurred as a result of transformation of the granulosa cells into lutein cells. It is not understood why some cysts luteinize and other fail to do so. Al-Dahash and David (3) speculated that those cysts which become luteinized develop from the most mature follicles which have theca cells sufficiently developed to become luteinized or the stimulus for luteinization might have been different in different cysts. hemorrhagic cysts were

detected in this work with an incidence of 1.4 % of all examined cases. In the pervious studies the incidence of hemorrhagic cysts in she camel were 1.2, 1.0, 0.4 and 0.8 % (24,33,35,38). Adams *et al*., (2) suggested that the high incidence of hemorrhagic follicles in non mated Llamas was not pathologic. Moreover, Tibary and Anouassi (40) mentioned that, follicular and hemorrhagic cysts are a normal evolution of non ovulatory follicles in 30 to 40 % of female camels. However, up till now it is not well known whether this type of cyst is a true abnormality or a physiological sate. This seems probable that these cysts may be due to some pathological changes during growth of a follicular cyst resulting in quick bleeding with accumulation of the blood within the cyst forming a hemorrhagic cyst. Therefore, further studies are needed to clarify the mechanism of development of hemorrhagic cysts in camels.

Dermoid cysts (benign cystic ovarian teratoma) were detected in this work with an incidence of 0.4 % of all examined cases. The incidence of teratomas in camels were found to be 0.67, 0.29, 0.4, 0.16 and 0.99 % in the previous investigations (16,18,24,33,34) respectively. The histopathological findings of the examined dermoid cysts in this investigation were similar to that described in other animal species (4,10,26). On the other hand, two cases of para-ovarian cysts were also observed with an incidence of 1.8 % all examined genitalia of she camel. This incidence was nearly similar to those mentioned by Fetaih (18) who reported that, the incidence of para-ovarian cysts in she camels was 2.10 %. Meanwhile higher incidence (8.02 %) was recorded by Shalaby (37) and lower incidence (0.22 %) was reported by Omar *et al.,* (34).

Ovarian hypoplasia is a congenital or acquired pathological condition which defined as incomplete ovarian development due to germ cell deficiency wherein the affected ovary or part of the ovary showed complete lack of follicles. In the present work only two cases of ovarian hypoplasia characterized microscopically by complete absence of follicular or luteal development and excessive fibrous connective tissues proliferation. This findings were in agreement with previous studies (15,18).

Although, ovarian neoplasms do not constitute a major cause of reproductive problems in she camels, an interesting case of arrhenoblastoma which is one of sex-cord stromal neoplasm of ovary was recorded in this study. According to the available literatures, there is no information about this neoplasm among she camel in previous studies. However, this neoplasm was recorded in other domestic animals including mare (31) and cat (25). The histopathological examination of arrhenoblastoma revealed lack of differentiation represented by interlacing bundles of spindle cells arranged either irregularly or one above the other. Moreover, tubules and cord like

structures of variable size lined by cuboidal cells with rounded nucleus and vacuolated eosinophilic cytoplasm were detected. These tubules and cords were regarded as the analogous of the sex cords of developing testis and consequently as precursors of the seminiferous tubules which indicate arrhenoblastomatous nature of condition. This microscopic findings were in accordance with those described in previous works (25,29).

Regarding to pathological conditions of uterine tubes, the incidence of oviductal affections was low (0.8 %), and represented by 3 cases of acute catarrhal salpingitis (0.6 %) and one case of hydrosalpinx (0.2 %). The gross and microscopic findings of the recorded acute catarrhal salpingitis were in accordance with that described by Fetaih (18) in she camels.

Concerning the histopathological examination of she camel uteri, the present work revealed that, the incidence of uterine affections constitute the higher one (13.2 %) in comparison with affections of other female genital organs. The pathological changes in the examined uteri were inflammatory in nature and among these inflammatory conditions, acute catarrhal endometritis was the most common recorded pathological conditions (6.4 %) followed by chronic catarrhal endometritis and suppurative endometritis (2.2 %). These results were in agreement with many authors (21,34,22) and in partial in accordance with Abd EL-Aal (1) and EL Deeb (13) who mentioned that, chronic catarrhal endometritis was the most frequently uterine lesion in she camels followed by acute catarrhal endometritis. The microscopic findings of chronic catarrhal endometritis in this study were in a harmony with that recorded in previous studies (18,5).

In addition to the afore-mentioned uterine lesions, five cases of chronic cystic endometritis (1%) characterized microscopically by cystic dilatation of endometrial glands with periglandular fibrosis and inflammatory cellular infiltration. These Microscopical lesions were in accordance with that of Hanafi *et al.*,(20) and Hegazy *et al.*,(22). Glandular fibrosis may reduced the fertility of she camels due to loss of the secretory activity of such glands which produce unfavorable site for implantation (28). Moreover, two cases of acute haemorrhagic endometritis were observed in the present study (1.54%). This result was partially in agreement with those of Shalash and Nawito (38) who recorded acute haemorrhagic endometrits in she camels with an incidence of 0.24 %.

In addition to the recorded inflammatory uterine conditions, five uterine neoplasms represented by two leiomyoma, one lipoma and two cases of uterine adenocarcinoma were recorded. The histopathological findings of leiomyoma were

similar to those described by previous investigators (18,22) in she camel uteri. Moreover in the present investigation, uterine adenocarcinoma was of cystic type and it characterized microscopically by presence of many cysts of variable sizes and shape lined by multilayers of neoplastic cells which had vesicular large nuclei were also noticed. Like arrhenoblastoma, there is no information about uterine adneocarcinoma among she camels in previous studies. However, similar microscopic picture of uterine adenocarcinoma was reported in other animal species such as cows (12,6) mare (19,7); captive Sika deer (36) ; retriever (8) and cat (30). Cervicitis is usually associated with uterine affection as an extension of inflammation of endomertitis. In this work only two cases of acute cervacitis was observed with acute catarrhal endometritis (0.4 %). This low incidence of cervical affections may be due to good defense action of the mucous secreting epithelium of the cervix against bacterial invasion (26). Moreover, our results were supported by Omar *et al.,* (34) and Fetaih (18) who mentioned that, cervacitis was the most frequent lesions in cervix of she camels

Regarding to the detected pathological changes in the vagina of she camel, low incidence of pathological conditions represented by vaginitis and vaginal hemorrhages were recorded (1.2 %). This low incidence could be attributed to two factors, the first is the protective effect of stratified squamous epithelium of vaginal mucosa which proliferate and mature under the influence of estrogen and become more resistance to infection and the second is due to local production of lactic acid which deposit into the epithelium (26). The causes of this vaginal affection usually traumatic during coitus especially in young females (43).

Finely, the study concluded that,

The incidence of pathological affections of genitalia of she camel was 20 %. This high incidence reflected the low fertility rates recorded in she camels.

The uterine affections represented the most common female genital affections followed by the ovarian pathological conditions.

The uterine affections were mostly inflammatory in nature and acute catarrhal endomteritis was the most prevalent one followed by chronic catarrhal endometritis , suppurative endometritis, chronic cystic endometritis and acute hemorrhagic endometritis..

Uterine neoplasms (2 leiomyoma, 1 lipoma and 2 adenocarcinoma) represented a considerable incidence among uterine lesions in genitalia of she camels.

Cystic Ovaries was the most prevalent pathological conditions among the recorded ovarian lesions and represented mainly by follicular cysts followed by paraovarian cysts. hemorrhagic cysts, luteal cysts and dermoid cysts.

Further studies are needed to detect the relationship between the affections of different female genital organs with each other.

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Fig. 3: Ovary of she camel showing hemorrhagic cyst with connective tissue wall infiltrated with hemosiderin pigments with presence of blood and areas of organization in lumen. H& E stain X 200.

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Fig. 20: Cervix of she camel showing cervacitis represented by edema, hemorrhages and hyperplasia of cervical glands with inflammatory cellular infiltration. H& E stain X 200.

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مسح مجزرى لإصابات الجهاز التناسلى الأنثوي للجمال فى محافظة القليوبية بمصر

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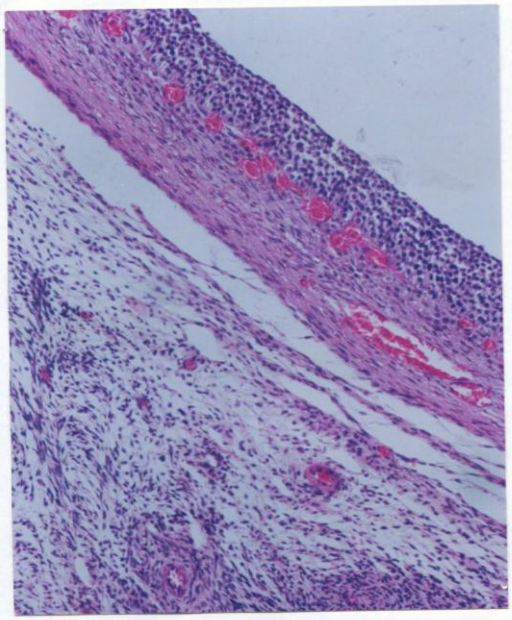
جامعة الزقازيق/فرع بنها

أجريت هذه الدراسة على عدد 500 جهاز تناسلى من النوق المذبوحة بمجزرى بنها وطوخ بمحافظة القليوبية و ذلك لتحديد نسب الإصابات المرضية ووصف كل من الصور العينية و المجهرية لكل إصابة. و أظهر الفحص وجود 130 حالة مرضية مختلفة مثلت نسبتها 26 % . و قد قسمت هذه الإصابات تبعا للفحص الهيستوباثولوجى إلى إصابات المبيض

(10.4 %) و إصابات قناة فالوب (2.8 %) و إصابات الرحم (13.2 %) و إصابات عنق الرحم (0.4%) و إصابات المهبل (1.4 %). كما تبين أن حويصلات المبيض هى الأكثر انتشارا بين إصابات المبيض و تمثلت هذه الحويصلات بحويصلات سطحية مبيضية، حويصلات مبيضية نزفية، حويصلات الجسم الأصفر، حويصلات شبه الجلد، حويصلات جار المبيض. كما سجلت بالإضافة إلى هذه الإصابات حالتان من قّصور فى نمو المبيض و حالة ورم أرومى بالمبيض. أما بالنسبة للتغيرات الباثولوجية للرحم فكانت معظمها التهابية على هيئة التهابات مخاطية حادة و التهابات مخاطية حادة و التهابات نزفية و التهابات صديدية و التهابات كيسية مزمنة. كذلك فقد سجلت فى هذه الدراسة خمس حالات من أورام الرحم هما ا حالتان ورم عضلى حميد و حالة ورم دهنى حميد و حالتان ورم غدى خبيث. وبالنسبة للتغيرات المرضية لكل من عنق الرحم و المهبل فكانت الأقل نسبة و ذات طبيعة التهابية.



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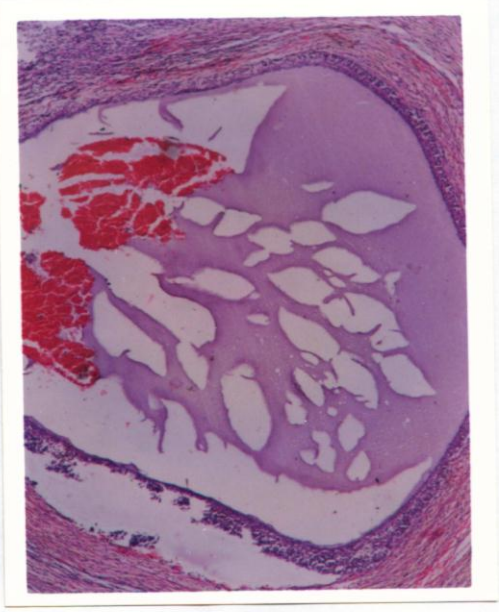

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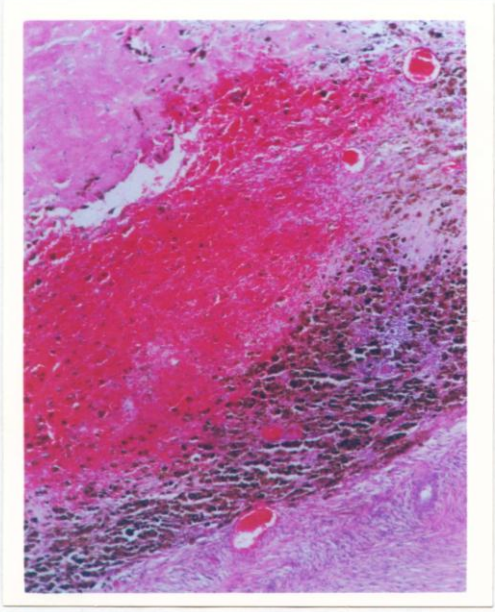

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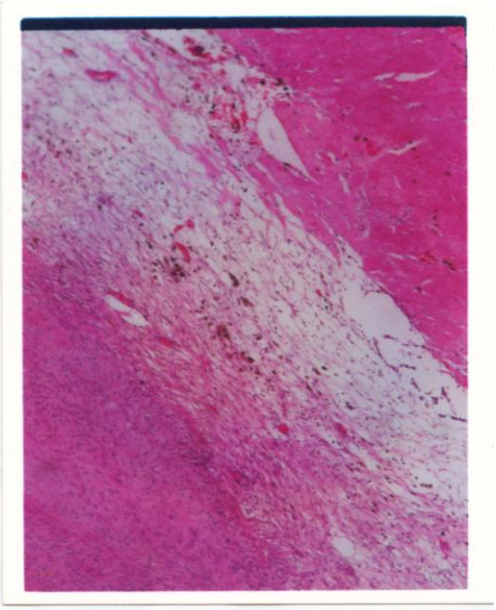

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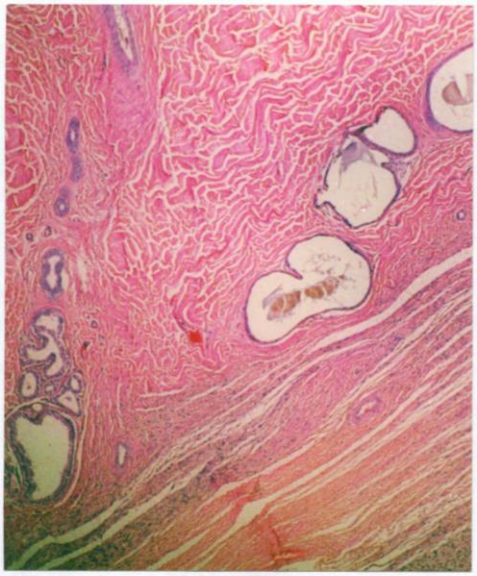

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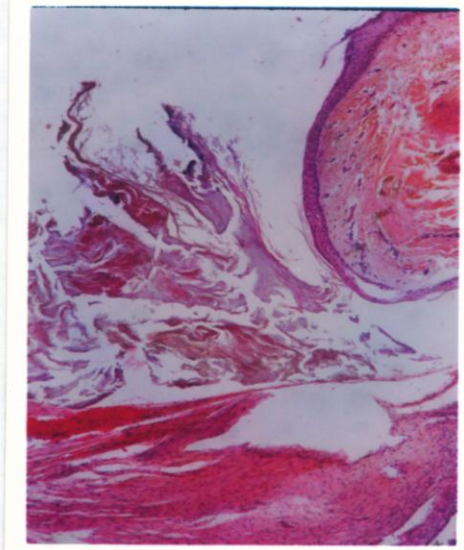

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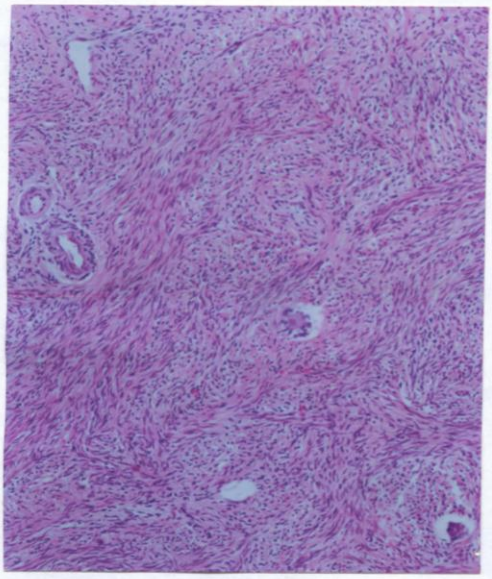

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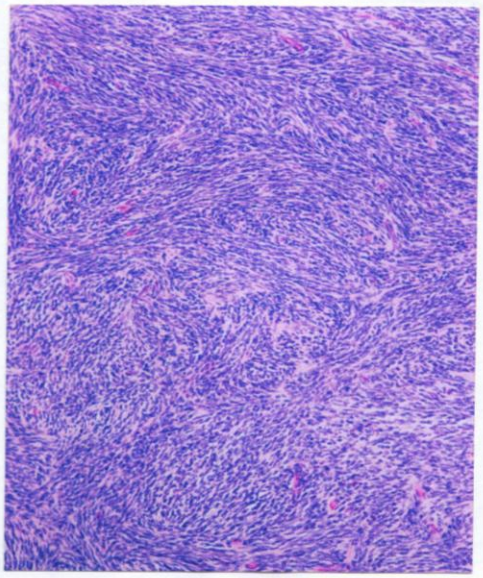

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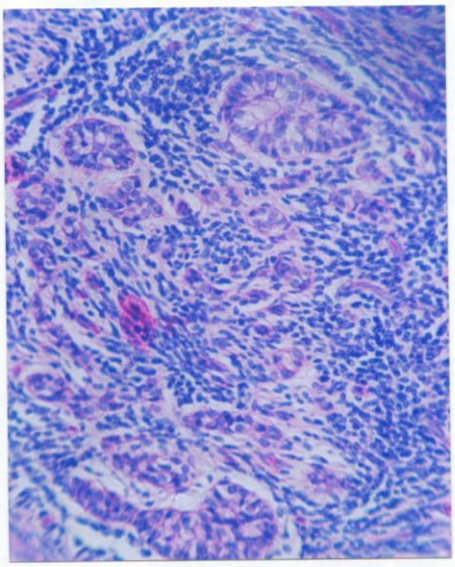

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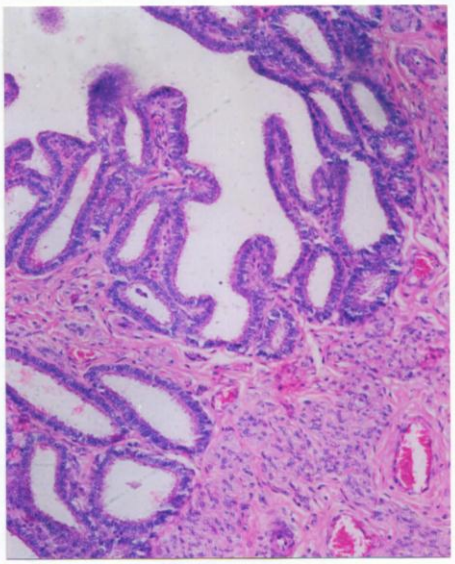

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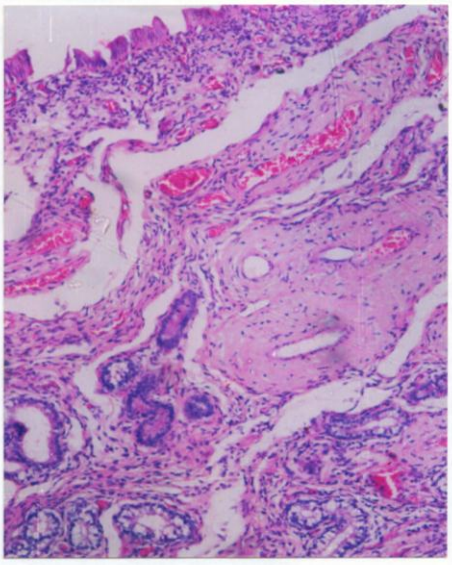

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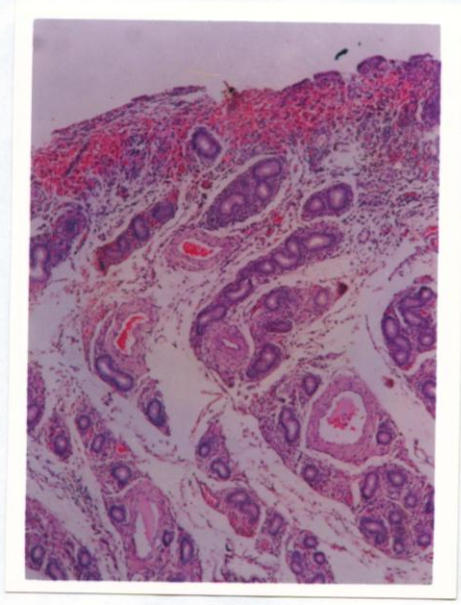

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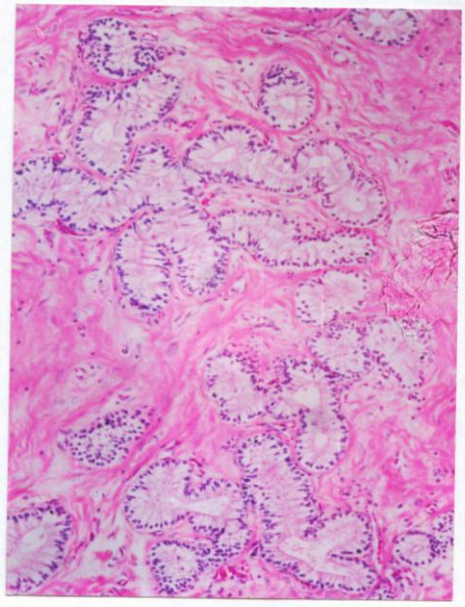

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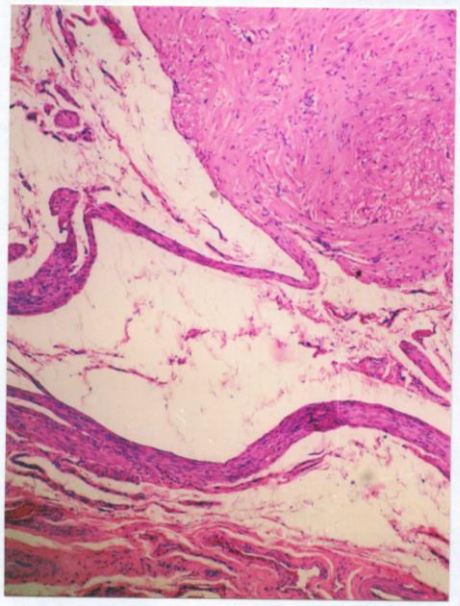

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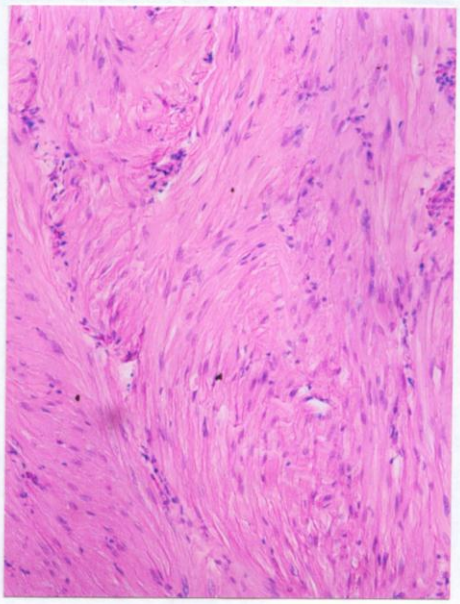

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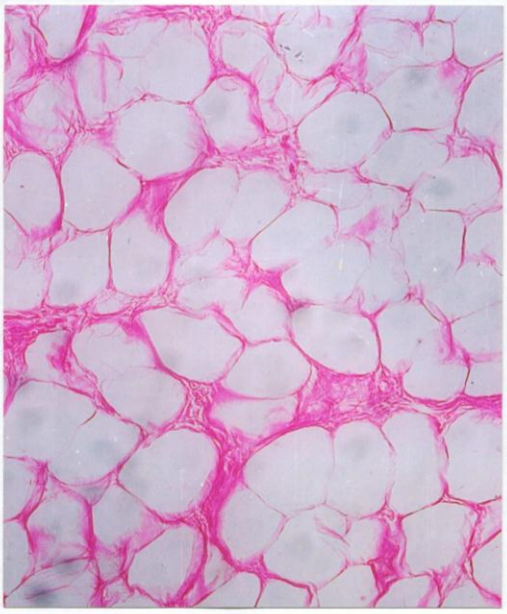

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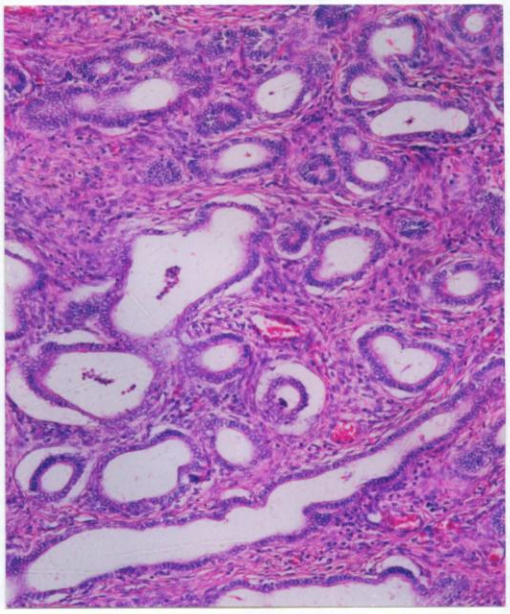

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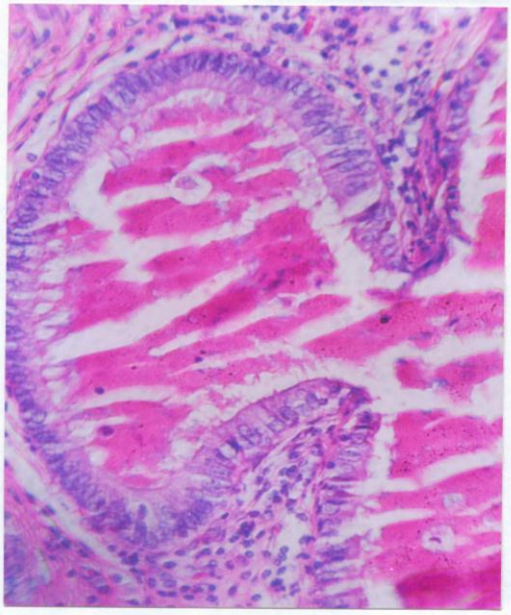

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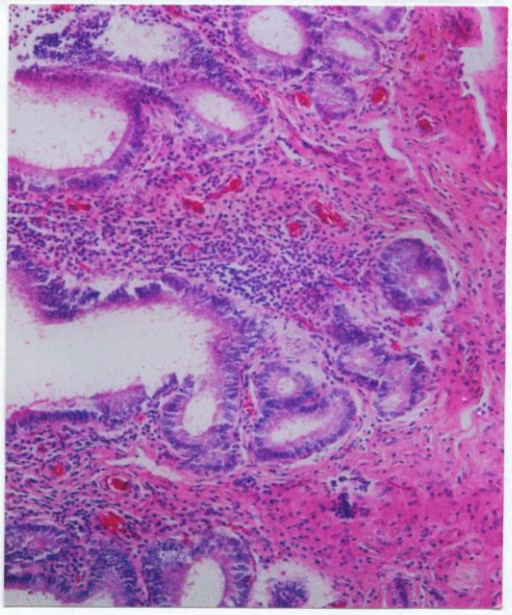

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