

HISTOPATHOLOGICAL DETECTION OF UTERINE CERVIX LESIONS IN NON PREGNANT EWES

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ABSTRACT

The study aimed detection and identification of the lesions in the uterine cervix of ewes and determination of their percentages in Mosul region. For that purpose cervixes from 108 non gravid genital systems were collected from slaughtered ewes at Mosul slaughter house and private butcheries for a period extended from 1/11/2012 to 1/5/2013. all of the samples were grossly and histologically examined. The result showed that the most observed lesions in cervixes were epithelial hyperplasia, epithelial degeneration and desquamation ,coagulative necrosis, cervicitis and sub epithelial hemorrhage at ratios 11.11% , 10.18% , 8.33%,3.70% and 5.55% respectively . It has been concluded that uterine cervix naturally exposed to multiple pathogens induced the noticed lesions .

INTRODUCTION

Cervix is a part of female genital system that connect uterus with vagina , several affections may affect cervix in farm animals including ewes . In general affections of the cervix are rare in farm animals , congenital anomalies recorded as two entire cervixes or a single bifurcated cervix and developmental anomalies like aplasia expressing diverticulosis of cervical canal , also adaptations like hyperplasia and hypertrophy (1) . Ewes exposed to estrogenic substances in plants like red clover may develop infertility because of the degenerative changes in the uterine cervix glands with fusion of cervical folds and production off less viscous mucous (1) . Traumatic dystocia and artificial insemination may result in induction of cervicitis also (1) . The most dramatic affections are manifested by inflammations and tumors . cervicitis in ewes also classified by (2) to acute cervicitis with neutrophil granulocyte infiltration ,

Purulent cervicitis manifested by presence of pus , necrotic cervicitis characterized by epithelial necrosis and haemorrhage and chronic cervicitis recognized by heavy mononuclear cells infiltration and deposition of collagen fibres . tumors of uterine cervix in ewes also recorded as neoplastic masses of squamous cell carcinoma (3) , also hemangioma was recorded (2) .

MATERIALS AND METHODS

Directly after slaughtering 108 cervix samples were collected from non pregnant ewes at Mosul abattoir and several butcheries around in the city for the period extended from 1/11/2012-1/5/2013 . the samples packed in plastic bags , numbered , cooled in ice and transported to the laboratory of histopathology / Department of pathology and poultry disease / college of veterinary medicine / university of Mosul , gross examination were recorded then samples were preserved in 10% neutral buffered formalin for tow days ,then histological preparation directly performed included dehydration with ethyl alcohol , clearing with xylene , embedding with paraffine wax , sectioning by microtome , staining routinely with H&E stain (4) . sections were examined under light microscope /Kruss/ Germany , and photographed using digital camera SONY/ Japan .

RESULTS

The results showed presence of mild to moderate lesions in the examined samples manifested by disturbances of growth and adaptations including epithelial hyperplasia , muscular hypertrophy and submucosal glands atrophy at ratios 11.11% , 0.93% and 0.93% respectively from total samples examined . Figures (1,2,3) , disturbances of cell metabolism were also apparent as cell swelling with desquamation and coagulative necrosis at ratios 10.18% and 8.33% respectively . Figure (4) . inflammations and repair also noticed as cervicitis 3.70% and submucosal fibrosis 0.93% . Figures (5,6) . Mild sub mucosal hemorrhages were observed in 5.55% of the examined samples as a circulatory disturbance Figure (7) . also jaundice was recognized in one sample 0.93% as a disturbance of pigmentation . Figure (8) . Table (1) .

Table (1) : Shows lesions of uterine cervix in ewes , number of the lesion affected samples and lesion ratios .

Classification of the lesion	N	Type of the lesion	Number of the affected samples	Ratio of occurrence with in total samples %
Disturbances in growth and adaptations	1	Epithelial hyperplasia	12	11.11
	2	Muscular hypertrophy	1	0.93
	3	Submucosal glands atrophy	1	0,93
Disturbances in cell metabolism	4	Epithelial degeneration and desquamation	11	10.18
	5	Epithelial coagulative necrosis	9	8.33
Inflammation and repair	6	Cervicitis	4	3.7
	7	Submucosal fibrosis	1	0.93
Disturbances in circulation	8	Sub mucosal hemorrhage	6	5.55
Disturbances in pigmentation	9	Jaundice	1	0.93

***Total number of samples=108 .**

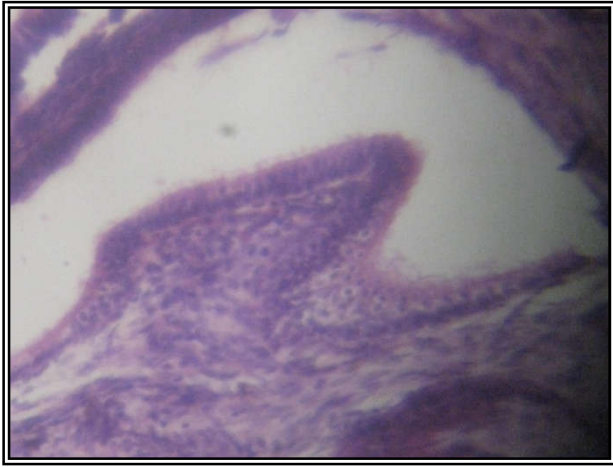


Figure (1) : Photomicrograph of uterine cervix of ewe showing epithelial hyperplasia in mucosal folds (A) . Staining H&E , Magnification 265 X .

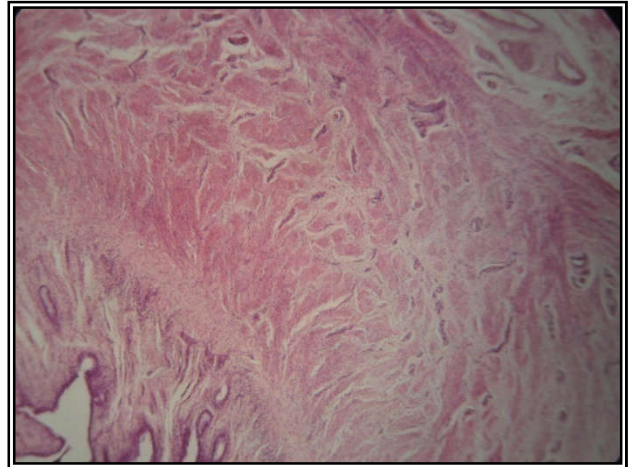


Figure (2) : Photomicrograph of uterine cervix of ewe showing muscular hypertrophy (A) . Staining H&E , Magnification 100 X .

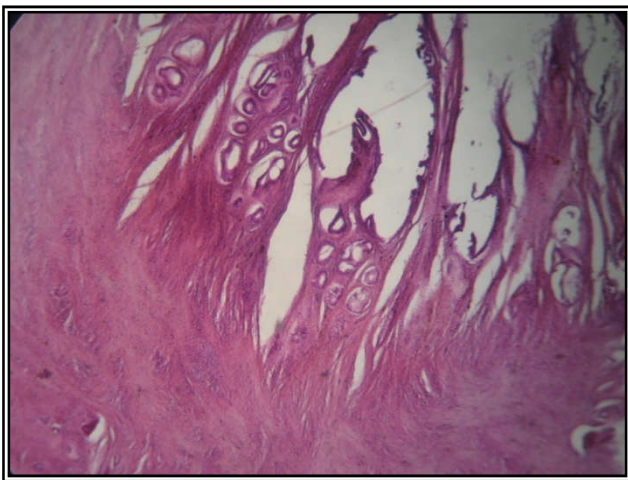


Figure (3) : Photomicrograph of uterine cervix of ewe showing sub mucosal glands atrophy (A).

Staining H&E , Magnification 40 X .

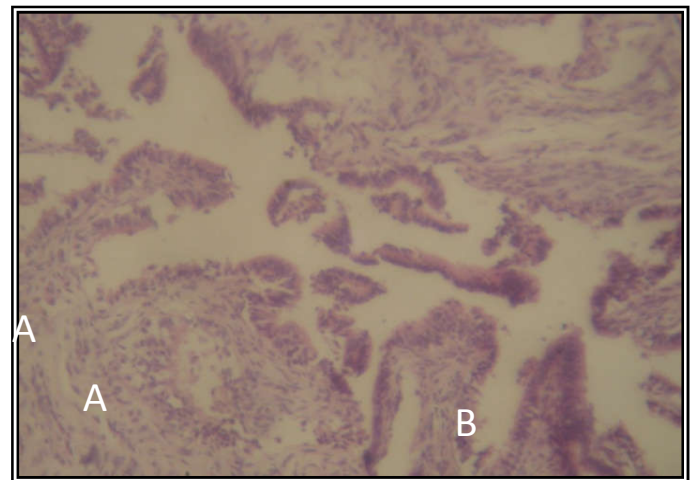


Figure (4) : Photomicrograph of uterine cervix of ewe showing degeneration , necrosis (A) and sloughing of mucosal epithelium (B) . Staining H&E , Magnification 165 X

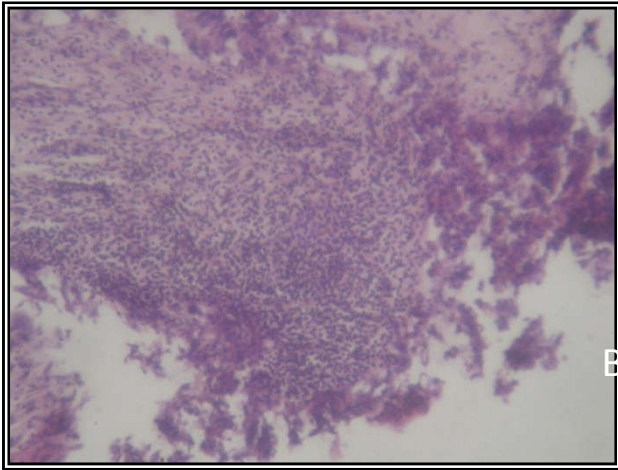


Figure (5) : Photomicrograph of uterine cervix of ewe showing acute cervicitis manifested by heavy polymorphnuclear cells infiltration (A) , degeneration and sloughing of epithelium (B) . Staining H&E , Magnification 165 X

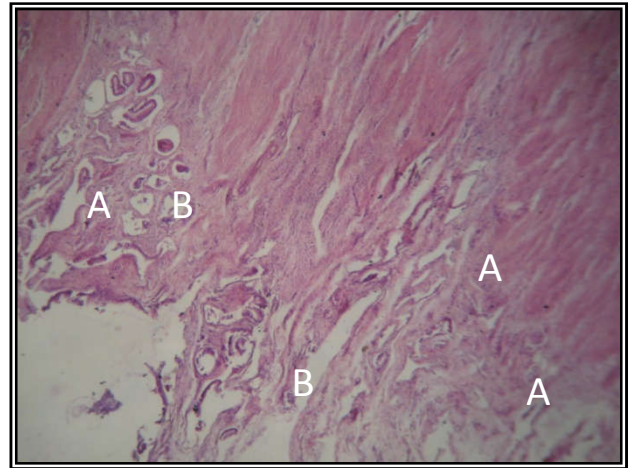


Figure (6) : Photomicrograph of uterine cervix of ewe showing submucosal fibrosis (A) , Atrophy of submucosal glands (B) . Staining H&E , Magnification 46 X .

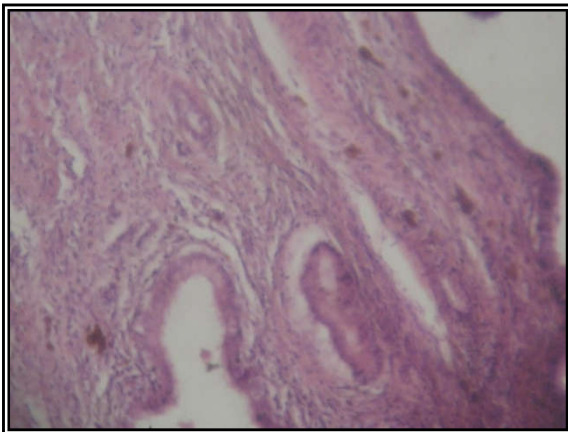


Figure (7) : Photomicrograph of uterine cervix of ewe showing focal punctuating submucosal hemorrhage (A) . Staining H&E , Magnification 165 X .



Figure (8) : The whole genital system of ewe showing icteric yellowish color of systemic jaundice (A) .

DISCUSSION

Presence of epithelial hyperplasia 11.11% and muscular hypertrophy 0.93% may indicate hormonal stimulation, (5) referred that prolonged exposure to estradiol -17 as a drug or by grazing on estrogenic substance containing herbs leads to hyperplasia and hypertrophy of uterine cervix also minimizing uterine cervix folds and causing temporary infertility in ewes if exposed for longer period. Muscular hypertrophy of uterine cervix also naturally accompanies pregnancy under the stimulation of progesterone (6) which may persist few weeks after parturition were samples from nongravid systems may be collected. Atrophy of submucosal gland in 0.93% of samples is mostly associated with advanced age or ovarian dysfunction leading to vulvovaginal atrophy because dropping of estrogen level (7).

Degeneration and desquamation 10.18% in uterine cervix epithelium are similar results to (8) who recognized degeneration and desquamation with lymphocytic inflammatory infiltrations and fibrosis in bovine uterine cervix, the same lesion also mentioned by (9) accompanies acute catarrhal cervicitis, while coagulative necrosis in cervix epithelium usually matches systemic toxicosis were it is recorded in human after radiation therapy (10).

The results obtained by the researchers above which recorded cervicitis were supported by our study demonstrating cervicitis in 3.70% of the examined samples and this is similar to (2) who recorded cervicitis in cattle at 1.35% of the examined samples, (9) noticed cervicitis 0.4% in camels, and (8) which observed cervicitis in cattle at 6.36% of the examined animals, all of those researchers explained incidence of cervicitis as an extension of endometritis or a complication of faulty artificial insemination technique. Submucosal fibrosis or scarification noticed at 0.93% of samples may result from chronic cervicitis or previous wounds from dystocia and mechanical manipulation at parturition (1). Inflammations and trauma to the cervix may explain small foci of haemorrhage at 5.55% of the examined samples. The appearance of jaundice in one sample may reflect a generalized pigment disturbance because of haemolytic anaemia (11).

التحري عن الأفات المرضية لعنق الرحم في النعاج غير الحوامل في منطقة الموصل

كرم الملاح ، مريم حسين

الخلاصة

أجريت هذه الدراسة للتحري عن الأفات المرضية لعنق الرحم في النعاج في منطقة الموصل والتعرف على أنواعها ونسب ظهورها . لذلك جمعت العينات من ١٠٨ جهاز تناسلي من النعاج غير الحوامل المجزورة في مجزرة الموصل وبعض محلات الجزارة للفترة من ٢٠١٢/١١/١ الى ٢٠١٣/٥/١ و أجري عليها الفحص المرضي العياني والنسجي . أظهرت النتائج بأن أكثر الأفات المرضية أنتشاراً في المبيضين كانت فرط التنسج الظهاري ، والتتكس الظهاري ، التوسف ، النخر التجلطي ، التهاب عنق الرحم و النزف تحت الطبقة الظهارية بالنسب ١١.١١% ، ١٠.١٨% ، ٨.٣٣% ، ٣.٧٠% و ٥.٥٥% على التوالي . لقد تم استنتاج أن عنق الرحم يكون طبيعياً معرضاً لمرضات متنوعة مسببة للأفات التي تمت ملاحظتها .

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