

UTERINE ADENOMYOSIS IN SHE BUFFALOES: A HISTOPATHOLOGICAL STUDY.

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ABSTRACT

Adenomyosis is a fairly frequent disorder adult she Buffalo characterized by the haphazard location of endometrial glands and stroma deep within the myometrium of the uterus.

It was found in twenty she buffalo in Basrah governorate, suffering from repeated estrus and infertility. This study recorded the histopathological changes of this disease.

This study showed that the endometrial glands are present mostly in myometrium which interfere the differentiation of the uterine cells in young female buffalo, the lesion also characterize by the fibrocytes as whorls pattern.

INTRODUCTION

Adenomyosis is characterized by the endometrial invasion of the myometrium. in addition there is a generalized hypertrophy and hyperplasia of the surrounding muscular elements of the myometrium (1,2) .

Prevalence of adenomyosis in surgical series varies between 5-70% (3) with mean of 20-30% (4).

Adenomyosis has two distinct forms; nodular and diffuse. The nodular type is circumscribed and may confuse with the leiomyoma, while the nodular type do not have at distinct margins with one to several cystic spaces (5).

Most authors found that endometrium penetrate the myometrium at the depth between of estrogen and progesterone in adenomyosis lesion which indicate that it hormone dependent(4).

Transvaginal ultrasound has been found to diagnosis the adenomyosis with sensitivity; specify positive and negative predictive value of 87-98% respectively (5).

Also several theories for the development of adenomyosis have been proposed, its precise etiology remains uncertain and the trigger of the apparent growth remain unexplained. The conventional view is that adenomyosis result from the abnormal down and invagination of the endometrium into the myometrium (6, 7).

The aim of this study is to investigate the histopathological changes of adenomyosis in she buffaloes in Basrah governorate.

MATERIALS AND METHODS

During the period from January to July .2008 we reported 20 cases of adenomyosis in 8-10 years old she buffalo , during rectal palpation of these animals which suffered from repeat breeder and anestrous.

All these animals represent cases referred by owners to the clinic private of author A. Alfaris in Basrah governorate. The routine surgical preparation of the abdominal region; anesthesia was achieved through intramuscular injection of (0.11-0.12mg\Kg body weight) of xylazine and local anesthesia by lidocaine 1 ml\cm³.

The animal was let to recumbent on the left side and skin incision was made on the right flank, then both ovaries and uterus were completely excision.

The uterus was washed with profuse normal saline solution and then fixed in 10% formalin for 48 hours. specimens were obtained from each uterine horn trimming for suitable size, dehydration, sectioned at 5µm thickness , stained with hematoxyline and eosin stain then examined under light microscope.

RESULTS

Grossly the adenomyosis appeared in myometrium as hypertrophy surrounding the endometrial mucosa , when the whole myometrium walls is diffusely involved , the uterus was enlarged and globular, histological was the term applied to a condition in which islands of ectopic endometrial glands while stroma was founded imbedded deeply within the myometrium as in figure(1).

At the considerate distance from there normal increased of myometrium bulk thus nonlarging uterus, the endometrium represent an outer growth of basal endometrial layer as in figure (2) , as well as made of cystic dilated endometrial glands and hypertrophied muscle in adenomyosis foci may be contain metaplasia changed of glandular epithelium as in figure (3).

Increased filtration of fibroblast, phagocytes, macrophages into the sarcoma, while the fibroblast present as whorist pattern as in figure (4).

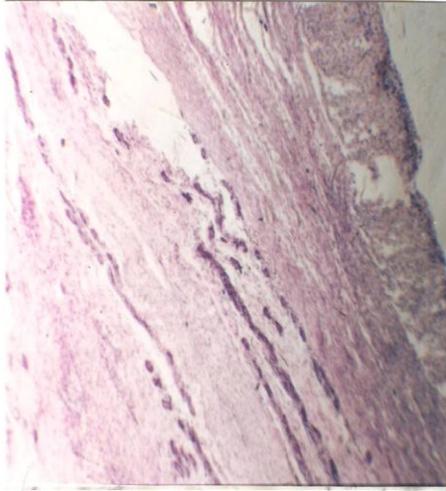


Figure-2; uterine adenomyosis of buffalo, show increase in myometrium bulk and uterine glands in layer of uterus.H&E x200.

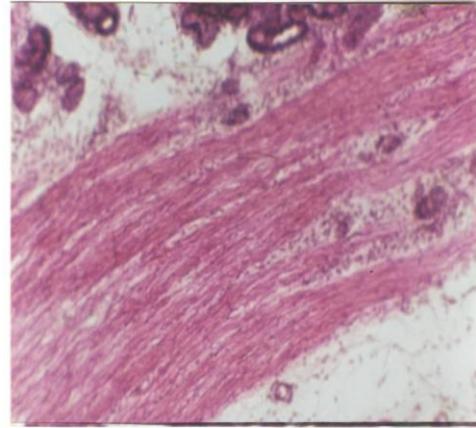


Figure-1; uterine adenomyosis of buffalo, seen uterine glands in myometrium fibrosis.H&E x400.

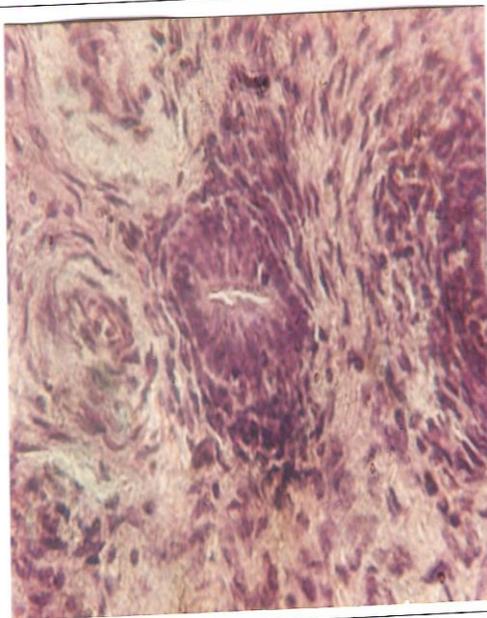


Figure-4; histopathological section of adenomyosis in buffalo, with fibroblast as whorls

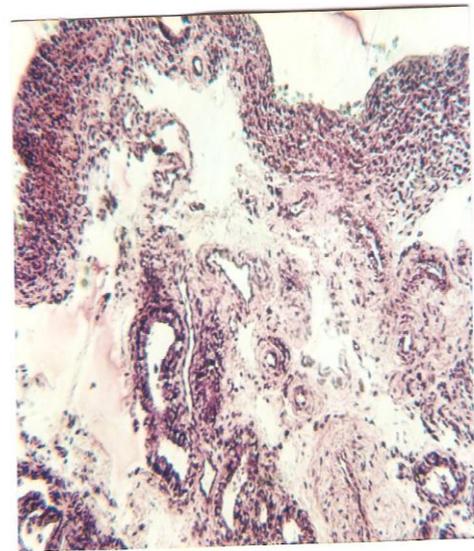


Figure-3; histopathological section of adenomyosis in buffalo, appeared severe infiltration of inflammatory cells in the stroma and obvious fibrosis .H&E x200.

DISCUSSION

In this study 20 cases of adenomyosis in she buffalo were recorded, by using standard pathological technique after surgical operations.

From a review of the literatures, it could be known that adenomyosis was not seen before this study of such type of neoplasm in buffalo in Iraq. Further more, the adenomyosis was occur as precise etiology and development events leading to adenomyosis were unknown. A number of theories have been proposed in the past 50 years. Currently, the most widely held opinion was that adenomyosis developed as down growth and invagination of basalis endometrium into myometrium (8, 9).

The precise reason for myometrium hyperplasia, hypertrophy located around deep foci of endometrium was not known but may indicate either an attempt to controlling endometrial invagination of the myometrium and smooth muscle bundles pushed aside by the growing endometrium (10, 11, 12 and 13).

The vast majority of all animals in this study attached with adenomyosis, but old age animals suscpitapel are more nearly all cases were adenomyosis.

Although adenomyosis occur relatively frequently in pregnancy of caesarean hysterectomy, it was note a major cause of obstetric or surgical complication (14, 15, 16, 17 and 18).

The histopathological feature of adenomyosis in this study described previously in animals as models. Disruption of the layers surround the endometrium in the myometrium and then gave rise to disordered in uterine stroma, smooth muscle , blood vessels and possibly its innervations , most importantly . All these observation may lead to infertility and anestrus.

ورم العضال الغدي في رحم الجاموس: دراسة نسيجية ومرضية

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الخلاصة

ورم العضال الغدي في رحم الجاموس متكرر الحدوث ، مؤديا الى اعتلال جسدي في اناث الجاموس البالغة ويتميز بوجوده الغدد الرحمية في مكان غير طبيعي في الطبقة العضلية للرحم وبشكل عميق. وجدت هذه الأعراض في 20 جاموسة في محافظة البصرة كانت تعاني من تكرار الشبق وقلة الخصوبة ، وسجلت في هذه الدراسة المعايير النسيجية المرضية للمرض. وفي هذه الدراسة وجد تقدم الغدد الرحمية بكمية عالية في الطبقة العضلية وهذا ما يعيق تمييز الخلايا في الرحم، عند الصغار. وقد وجدت الارومات الليفية عند الصغار على شكل دوامات.

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