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Reproductive system affections in sheep and goats in state of Kuwait

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ABSTRACT

The differences in management and production systems and environmental conditions under which goats and sheep are maintained could greatly affect the occurrence of reproductive health problems. Although, major reproductive disorders greatly responsible for high economic loss in dairy goat and sheep, limited research have been done on the prevalence and current treatment practices of the reproductive disease in Kuwait. This study was designed to record the field surgical affections in sheep and goats in Kuwait city. The study was conducted from October 2017 to October 2019 in different farms belonging to Public authority for agriculture affairs and fish resources - Kuwait City, Kuwait. In this study different 140 cases of reproductive system affections in sheep and goats were recorded. Among the affections in both sheep and goats the highest affection was caesarean section (42.85%) followed by vaginal prolapsed (15.71%) and hernia (8.57%) (Table 2). Caesarean section and vagina prolapse affections were more in sheep than goat. Whereas hernia was more in goat than sheep (Table 2). Hermaphrodite and hypospadias were recorded in goat but not in sheep. Scrotal hernia was found in sheep but not in goat.

INTRODUCTION

Sheep and goats share many diseases and surgical injuries due to their closeness in anatomical and physiological features (Agrawal et al., 2014). Abnormalities of sheep and goat reproductive organs have a significant effect on its fertility (Al-Rawi 2004).

Vaginal prolapse

Vaginal prolapse can be defined as an evasion and pushing of apart or the whole of the vaginal wall with/or without the cervix outside the female body through the vulva (Fielden, 1980).

Vaginal prolapse is a problem that affecting female of several animal species (Couri et al., 2012). Amongst animal species, vaginal prolapse is seen most frequently in antepartum sheep (Sobiraj, 1990).

Cervical-vaginal prolapse appears as a smooth pink to red mass at the rear end of the ewe. In fresh stage, the incomplete CVP may temporarily appears when the ewe is lying down due to increase the intra abdominal pressure but disappear when the ewe stands. On the other hand, complete CVP does not disappear when the ewe is standing and known as complete CVP. The CVP mass varies in its size from a tennis ball to a melon (Fisher, 2016).

Irritability and discomfort due to the displacement of the vagina with/without the cervix progressively leads to increased straining and increases the size of the extensive prolapse (Kahn, 2005). The size of the CVP is also increased and become more swollen due to both the oedema and the urine retention inside the occluded urinary bladder (Kennedy, 2013). Complications as consequences of the CVP include difficult urination, hardening of the CVP wall, occasionally rupture of vaginal wall through which certain organs such as intestine, urinary bladder and/or uterus may

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eviscerate. All these complications may result in death of the animal. If the ewe survives until lambing without treatment, maternal dystocia is a common sequela (Kennedy, 2013, Kloss Et Al., 2002, Praveen, 2016, Sobiraj, 1990, Veeraiah And Srinivas, 2010).

Urethral affection

Congenital anomalies of the urinary system rarely occur in ruminants; though, a wide variety of abnormalities may be encountered. The most common defects are patent urachus, hypospadias and renal agenesis. Defects are frequently present in multiple forms and often seen with anomalies of other systems. Hypospadias is found in association with hermaphroditism in goats; other defects are uncommon. (KING, 2002). Although hereditary factors have an important role to play in the occurrence of urethral diverticulum and dilatation (Johnson, 1985). The urethral process is commonly amputated therapeutically and sometimes prophylactically in male small ruminants (Temizsoylu, 2005).

Penile affection

Persistence penile prolapse means prolapse of penis from prepuce all the time or inability of the animal to retract the prolapsed penis into the prepuce (Misk et al., 2013). Penile urethral dilatation is a painless, fluctuating and glistening cystic like pouch covered externally with healthy skin. It varied in size from a small bean like swelling to a large mandarin like size. It extended in front of the scrotum to variable distance on the ventral aspect of the penis (El-Seddawy, 1994; Senna et al., 2003). Many affections of the penile urethra were mentioned in the available literature including congenital anomalies such as hypospadias in cattle, sheep, and goat (Azari et al., 2010, Sakhaee and Azari, 2009, Ladds, 1993, Smith, 2009, Blowey And Weaver, 2011).

Urethral dilatation

The dilated part of the urethra below the induced fistula was resected or obliterated. In hypospadias, the bared mucous membrane of the urethra was covered by suturing the skin edges after their dissection from the underlying tissues. The displaced urethral orifice was widened (MISK, 2008).

The urethra in male ruminants is a long tube extends from the bladder to the glans penis. It passes caudad on the floor of the pelvis, turns around the ischia larch, forming a sharp bend and passes craniad as a part of the penis, enclosed in the corpus cavernosum urethrae. Just caudal to the scrotum the penis and penile urethra form a s-shaped curve, the sigmoid flexure. In rams, the penile urethra lies in a groove on the ventral surface of the corpus cavernosum. Its terminal part projects commonly about 3-4cm beyond the glans penis forming a twisted processes urethrae (Ashdown and Done, 2010, Clayton And Flood, 1996). Many affections of the penile urethra were mentioned in the available literature including congenital anomalies such as hypospadias in cattle, sheep, and goat (Azari Et Al., 2010, Sakhaee And Azari, 2009, Ladds, 1993, Smith, 2009, Blowey And Weaver, 2011).

Testicular affection

The castration of male goats is a routine practice in many countries aimed at reducing management problems with aggressive and sexual behavior, as well as improving meat quality (Molony, 1995). The main techniques used to castrate goats include surgical or nonsurgical/ischemic (elastrator, burdizzo or emasculatome) methods (Dawson, 2010).
Castration has been shown to elicit inflammatory reactions, physiological stress, suppression of immune function, pain-associated behavior, and a reduction in performance (Fisher, 1996).

Scrotal hernia

Many small umbilical hernias may appear to resolve spontaneously, but large or strangulated umbilical hernias will require surgical correction. Inguinal hernia is relatively common in bulls, rams and boars. Scrotal hernia is merely an extension of an inguinal hernia. Congenital inguinal hernia is rare in bulls, but it may result in evisceration at castration. Acquired inguinal hernias occur in mature bulls and rams (St Jean, 1995).

Cesarean section (dystocia)

Appropriate surgical preparation for aseptic surgery is indicated. After opening of the abdominal wall, the gravid horn must be exteriorized using fatal extremities. Care must be exercised to prevent uterine wall rupture and spillage of contaminated fatal fluid into the abdominal cavity in cases of a dead foetus or delayed dystocia. It is advisable to pack the exteriorized uterus using sterile and moist towels in those situations. A long incision is made in the greater curvature of the uterus in an area devoid of cotyledons. In most cases, one incision in the uterine horn is used to deliver multiple fetuses (Fubini, 2004).

The differences in management and production systems and environmental conditions under which goats and sheep are maintained could greatly affect the occurrence of reproductive health problems. Although, major reproductive disorders greatly responsible for high economic loss in dairy goat and sheep, limited research have been done on the prevalence and current treatment practices of the reproductive disease in Kuwait. Therefore, the study was designed to investigate the magnitude of major reproductive disorders in goat and sheep in Kuwait city, Kuwait.

METERIALS AND METHODS

The study was conducted from October 2017 to October 2019 in different farms belonging to Public authority for agriculture affairs and fish resources - Kuwait City, Kuwait. In this study different 140 cases of Reproductive system affections in sheep and goats. Ten reported injuries were recorded and mention in table 1 and table 2.

Case history and clinical examination

The owner complaints and the full case history were taken from the animal's owner according to previously designed sheet. The data regarding age, sex, species, breed, time of onset of the disease, previous interventions, and general health conditions were recorded (Pugh et al., 2020). Clinical signs including any changes in the animal behavior, appetite, nature of excretion and secretions, locomotion disorders, swellings, and expressions of pain and other alignments were recorded. General and local visual examinations of each case were performed for the detection of any structural and/or functional disorders of the affected region. Physical palpation of the affected parts and/or lesions was done to detect their nature, consistency, and tenderness (Abdel-Hady et al., 2015). The exploratory puncture was done whenever indicated to reveal the physical characters of the existence of fluids or contents in the examined lesions. General physical examination including pulse and respiratory rates, body temperature, and lymph nodes was performed to determine the health status of the animal. Digital photographs were obtained for each case. A complete description of the lesion was recorded to state the final diagnosis or directed to confirm the primary diagnosis using diagnostic tools (Matthews, 2016).

RESULTS AND DISCUSSION

In this study 140 cases of reproductive system affections in both sheep and goats were recorded of which highest affection was caesarean section (42.85%) followed by vaginal prolapsed (15.71%) and hernia (8.57%) (Table 2).

Caesarean section and vagina prolapse affections were more in sheep than goat. Whereas hernia was more in goat than sheep (Table 2). Hermaphrodite and hypospadias were recorded in goat but not in sheep. Scrotal hernia was found in sheep but not in goat.

For rare injuries such as mammary hypertrophy, hermaphrodite, hypospadias no operation were performed due to the loss of reproductive production by these animals. The surgical intervention and postoperative condition of the affection were demonstrated in Fig. 1 to 13.

Table 1: The number and the percentage of the affected sheep and goats

Species	Male	Female
Number Affections	37	103
Percentage	26.4%	73.5%

Table 2: Reproductive affections of sheep and goat in state of Kuwait

Sl. No.	Reproductive affections	Total Number (%)	Sheep Number (%)	Goats Number (%)
1	Ceaserian section	60 (42.85)	35 (43.20)	25 (42.37)
2	Vagina prolapse	22 (15.71)	18 (22.22)	4 (6.77)
3	Wound	3 (2.14)	1 (1.23)	2 (3.38)
4	Hernia	12 (8.57)	4 (4.93)	8 (13.55)
5	Scrotal hernia	12 (8.57)	12 (14.81)	-
6	Testis abscess	7 (5)	4 (4.93)	3 (5.08)
7	Testis heamatoma	6 (4.28)	3 (3.70)	3 (5.08)
8	Penis affections	7 (5.0)	3 (3.70)	4 (6.77)
9	Mammary hypertrophy	3 (2.14)	1 (1.23)	2 (3.38)
10	Hermaphrodite	3 (2.14)	-	3 (5.08)
11	Hypospadias	5 (3.5)	-	5 (8.47)
-	Total	140	81	59

A B

Fig. 1: A) An ewe that suffer from a decomposed fetus. B) Post extract fetus it is these are pieces of bone.

C D E F

Fig. 2: C) Ventral abdomen hernia in an ewe besides, the case has dystocia. D)Viscera show from incision. E) Tow kids died. F) After surgery.

F G

Fig. 3: F) Ewe suffer from fetus emphyzema.G)Post surgery for extract fetus.

H I

Fig. 4: H), I) After the C-section, the newborn was exhumed alive.

J K

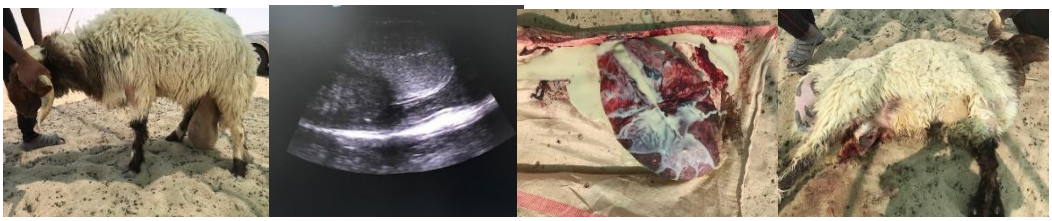
Fig. 5: J) Ewe affected for vagina prolapse.K) Post surgery.

L M

Fig. 6: L)The condition is goat suffers from a shortness of penis length and increase in the skin of the bursa. M) After surgery, a small part of the bursa lashes are removed.

N O P

Fig. 7: N) The condition is goat suffers from a shortness of penis length and increase in the skin of the bursa. O) After surgery. P) Small part of the bursa lashes are removed.



Q R S T

Fig. 8: Q) Swelling in lift testicular.R) ultrasound showed abscess. S)Remove testis thewhite color is abscesses. T) After surgery.

U V W X

Fig. 9: U) Swelling in lift testicular. V) After surgery the testis removed. W) Hematoma showed after open testis. X) Huge testis after removed 2.5 kg approximately.

Y Z A1

Fig. 10: Y) Swelling right testis. Z) cord collection artery, vein, and spermatic cord. A1) After surgery.

B1 C1

Fig. 11: B1) Hermaphrodite in goat three monthes. C1) post surgery.

D1 E1

Fig. 12: D1) Premium is open with rectum and vagina. E1) Post surgery.

F1 G1 H1 I 1

Fig, 13: F1) Hypospadias in a goat. G1) Penile urethral dilatation in a ram. H1)Mammary hypertrophy in a goat one month. I 1) Hernia prenuim.

CONCLUSION

It was concluded that the most pressing constraint on goat and sheep reproduction in the present study are ceaserian section (dystocia), vaginal prolapse. The reproductive disorders are the major causes of reduced fertility in goat and sheep. Therefore, these two and other recorded reproductive affection like scrotal hernia, testis abscess, testis heamatoma, penis affections, mammary hypertrophy, hermaphrodite and hypospadias, are the important factors causing great economical loss to goat and sheep industry. Increased production of goat and sheep meat, skin, goat's milk and sheep wool are deeply related to the management of the reproductive disorders. Therefore strategies should be taken to minimize their occurrence.

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