



Pathological abnormalities in genital tract of cows slaughtered at Dhamar abattoirs, Yemen

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ABSTRACT

The present study was conducted to assess type and prevalence of gross genital tract abnormalities in cows slaughtered at Dhamar abattoir, over a period of 6 months from October 2010 to March 2011. Out of 160 cows genital tracts were collected and examined, gross abnormalities were recorded in 21 (13.13%) cases. These abnormalities include, ovarian cysts (8.13%), pyometra (1.87%), hydrosalpinx (1.25%), paraovarian cysts (1.25%) and hemangioma (0.63%). It's concluded that the results of the present study may help to provide information on the prevalence of bovine reproductive abnormalities in Dhamar, Yemen. Accordingly, appropriate preventive measures could to be taken.

Key words: Dhamar, Cow, Genital tract, Pathological abnormalities, Yemen.

INTRODUCTION

Cattle productions play an important role in an economy of many countries of the world including Yemen. Cows are the main source of meat and milk production in Dhamar and their slaughter is always associated with a reduced reproductive efficiency and milk production (Jainudeen, 1986; Assey et al., 1998). Production potential of dairy cattle can be improved through selective breeding, better feeding, adequate management and increased

reproductive efficiency (Ali et al., 2006).

Generally, female animals are culled and sent to slaughterhouse either they are uneconomic to maintain or else they have diseases problems. Hence, abattoirs are a good source for studying pathological lesions of cow's reproductive organs that are severe enough to cause infertility and even sterility (Dobson & Kamanpatana, 1986; Thrusfield, 1995).

Considerable studies have been conducted on reproductive tract

abnormalities of cows in many countries of the world and reported several abnormalities with different prevalence rates (Rogers et al., 1972; Alam, 1984; Kanjilal et al., 1984; Kiran et al., 1995; Biolatti et al., 1986; Timurkaan & Karadas, 2000, Saxena et al., 2006).

Investigations of cow reproductive abnormalities based on abattoirs survey provide information on prevalence of reproductive disorders (AL-Dahash & David, 1977). Despite this, no study has been conducted in Dhamar on the occurrence of reproductive tract abnormalities based on slaughterhouses samplings. Therefore, the present study was conducted to determine the type and prevalence of reproductive tract abnormalities in cows slaughtered at a local abattoirs in Dhamar, Yemen.

MATERIALS AND METHODS

One hundred and sixty bovine reproductive tracts were collected randomly from cows slaughtered in local abattoirs of Dhamar, Yemen at regular intervals between October, 2010 to March 2011.

In abattoir, each specimen was subjected to preliminary examination, then were kept in clean container, labeled properly and brought to Anatomy laboratory, Faculty of Agriculture & Veterinary Medicine,

Thamar University, Dhamar for further examination and processing. In laboratory, the tracts were examined visually and manually for the presence of various pathological abnormalities as previous described (AL-Dahash & David, 1977; Roine, 1977; Garcia, 1988; Assey et al., 1998). Reproductive tracts were examined carefully with particular attention to the vagina, cervix, uterus, oviduct and ovaries. Gross lesions were diagnosed, evaluated and measured as methods given by Drennan & Macpherson (1966) and then photographed.

Representative samples of some pathological conditions were processed for histopathology study according techniques described by Luna (1968). Prevalence rate was recorded on the basis of macroscopic and microscopic examination. Classification of lesions was done organ wise. There is no information regarding history of the animals included in this study.

RESULTS

In this study, out of the 160 Cow's genital tracts examined, 21(13.3 %) tracts were observed various abnormalities and 12 (7.5%) of the cases were pregnant. The prevalence rates of the various genital tracts abnormalities of slaughtered cows are presented in Table1.

Table1. Prevalence and gross genital abnormalities in cows slaughtered at Dhamar abattoir

Genital abnormalities	Observations	Prevalence rate (%)
Ovarian cysts	13	8.13
Pyometra	3	1.87
Para ovarian cysts	2	1.25
Hydrosalpinx	2	1.25
Ovarian Hemangioma	1	0.63
Total	21	13.13

The maximum pathological abnormalities condition were recorded in ovaries (10%) followed by purulent endometritis, Pyometra, (1.87%) and Follicular ovarian cysts (Fig.1.a) are recorded in 12 (7.5%) cases. The average diameter was 4cm. Luteal cysts (Fig.1.b) was recorded in 1 (0.63%) cow. Hemangioma in the ovarium was recorded in one case (0.63%) which including blood clots in structures (Figs. 1.c & 1.d). Microscopically, large vessels filled with excess erythrocytes which were separated by loose connective tissue and lined by single layer endothelial cells were observed. Para ovarian cysts were recorded in 2 (1.25%) of the cases (Figs. 1.e & 1.f). These cysts were filled with thick mucoid fluid. Hydrosalpinx (Fig. 1.g) was observed in 2 (1.25%) cases. In these cases, dilatation of oviduct with clear amber fluid accumulation was detected. Purulent endometritis (Fig. 1.h) were found in 3 (1.87%) cases. In these cases, creamy, yellowish green colored with smelly pus accumulation were seen in the uterine lumen.

Some specimens in the present study indicated recent parturition and early uterine involution by the relatively large size of the reproductive tract, presence of furrows on uterine surface and signs of truma to the birth canal.

DISCUSSION

The result of the current study are revealed that, the prevalence rate of the reproductive tracts abnormalities in slaughtered cows in abattoirs of Dhamar was 21 (13.13%), this prevalence was lower than that, recorded by Herenda (1987), Assey et al.(1998), Lodhi et al. (1999), Alwan et al. (2001) and Gebrekidan et al. (2009) who reported the prevalence rate as 62 %, 31.5%, 47.9%,80% and 52% respectively. While, in agreement

Hydrosalpinx (1.25%). The pathological abnormalities of ovaries include:

with findings of Chaudhari & Bokko (2000) who reported the prevalence rate as 13.59%. On other hand, it's higher than that reported by Lawton et al. (2000) and Obwolo & Ogaa (1990) who reported the prevalence rate as 5.7% and 8.5 % respectively in cattle. The contrary between the prevalence rate recorded in current study and findings of above workers could be attributed to the breed variation, management, environmental conditions and level of nutrition.

In the present study, the ovarian disorders prevalence rate was 10%, which it's higher than that reported by Miller & Campbell (1978), Dinc & Guler (1987) and Alwan et al. (2001) who reported the prevalence rate as 1.26%, 3.61% and 5.3% respectively; Whereas, lower than that reported (14.9%) by Herenda (1987).

The prevalence rate of follicular cysts recorded in this study (7.5%) was higher than those recorded by AL-Dahash & David (1977), Obwolo & Ogaa (1990), Hatipoglu et al. (2000 and Gebrekidan et al. (2009) who reported the prevalence rate as 5.4%, 3.8%, 5.5% and 0.34% respectively. However, it was lower than that reported by Feyissa (2006), Herenda, (1987) and Drennan & Macpherson (1966) who recorded the prevalence rate as 30%, 13.9% and 10% respectively. Roine (1977) and Noakes et al. (2002) suggested that breed, age, level of milk production, feeding and exercise are factors influencing on the prevalence of cystic ovaries in cattle.

In the current study, the Paraovarian cysts prevalence rate was 1.25 % which is partially in agreement with findings of Rogers et al. (1972),

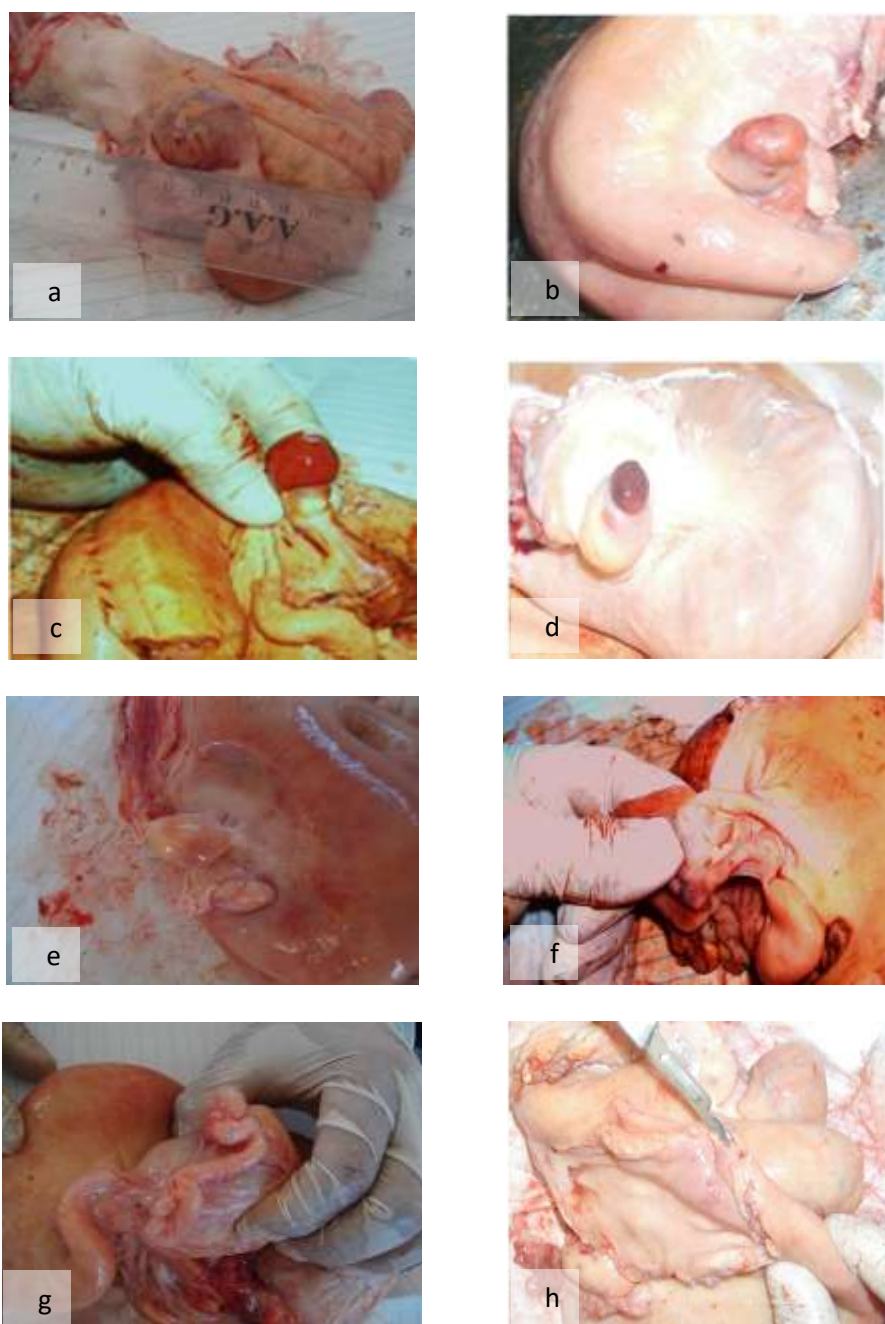


Fig 1. Gross pathological abnormalities in genital tract of cows. (a) ovarian follicular cyst,(b) luteal cyst, (d) hemangioma, (e) para ovarian Cyst, (f) para ovarian cysts, (g) hydrosalpinx, and (h) purulent endometritis.

Alam (1984), Dinc & Guler (1987), Roine (1977) and Feyissa (2006) who recorded the prevalence rate ranged from 0.41% - 2.3%. while, in contrast with the findings of Fathalla et al. (2000) who reported the prevalence rate as 4% in cattle in Jordan.

In this study, Hemangioma in the ovarium was found in one case (0.63%), according to macroscopic and microscopic examination findings. Those results are similar to previous findings reported by other workers (Moulton, 1978; McEntee, 1990; Buergett, 1997).

In the present study, hydrosalpinx were seen in 2 cases (1.25%), which is higher than that reported by Herenda, (1987) and Chaudhari & Bokko (2000) who recorded the prevalence as 0.22% and 0.75% respectively.

The results of current study revealed that prevalence of endometritis (pyometra) was 1.87%. These results are in contrary with findings of Herenda, (1987) and Chaudhari & Bokko (2000) who reported the prevalence rate as 0.18% and 0.48% respectively. The differences could be attributed to microbial infections, poor management and animal age.

Conclusion

It could be concluded that, Pathological abnormalities in genital tract of cows slaughtered at abattoirs of Dhamar are prevalent. The results of this study could be helpful on providing information on the prevalence of bovine reproductive abnormalities in Dhamar, Yemen. Accordingly, appropriate preventive measures should be taken.

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الإصابات المرضية في الأجهزة التناسلية للأبقار المذبوحة في مجزرة ذمار، اليمن

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الملخص

أجريت الدراسة الحالية لمعرفة نوع ونسب حدوث الإصابات المرضية العيانية في الجهاز التناسلي للأبقار المذبوحة في مجزرة محافظة ذمار للفترة من أكتوبر 2010 وحتى مارس 2011م . حيث تم جمع 160 عينة للأجهزة التناسلية من المجزرة بشكل عشوائي. ومن خلال فحص تلك العينات وجد أن 21 حالة وبنسبة حدوث (13.13%) كانت تعاني من إصابات تناسلية عيانية. وأظهرت نتائج الدراسة الحالية أن نسبة الإصابة بحالة تكيس المبايض كانت (8.13%) وحالة تقيح الرحم كانت (1.87%) بينما كانت نسبة الإصابة بحالة موه قناة البيض وأكياس جنيب المبيض (1.25%) لكل منهما، فيما سجلت حالة ورم المبايض الدموي أقل نسبة حدوث (0.63%). واستنتجت الدراسة الحالية أن معظم الأبقار التي تم ذبحها في مجزرة ذمار خلال فترة الدراسة كانت سليمة أو تعاني من إصابات تناسلية يمكن معالجتها. يمكن الاستفادة من هذه النتائج في عمل برنامج قد تساعد في الحد من حدوث مثل هذه الحالات المرضية.