

Short Communication

A bilobed Gallbladder (*Vesica Fellea Divisa*) in Cattle Slaughtered at Jimma Municipal Abattoir, West Oromiya, Ethiopia

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Abstract

Gallbladder abnormalities occur rarely. The recognized abnormalities recorded so far comprised duplication, septation, abnormal position and total absence of the gallbladder. The bilobed gallbladder of the cross bred oxen slaughtered at Jimma municipality abattoir constituted two lobes separated by a deep cleft. However, the two lobes were joined at the neck and drained by one duct. Both the lobes were of equal size and filled with bile.

Key words: Bilobed, Cattle, gallbladder, Jimma, Muncipal abattoir

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Introduction

Anomalies of the gallbladder are rare. They arise from abnormalities in embryogenesis during the fifth and sixth weeks of gestation Causey *et al.*, (2010) and the described malformations vary anatomically in location (site), number, size, shape and heteropias Martinoli *et al.*, (1993); Patel *et al.*, (2008). Boyden (1926), Gross (1936) and Harlaftis *et al.*, (1977) have proposed various types of classifications of congenital malformations of gallbladder based on its anatomic or embryologic development. In general, malformations of the gallbladder are categorized as *divisa* (partially divided and bilobed or bifid) accounting for most of anomalies, *duplex* (double) that are responsible for 10% of the abnormalities or *multiplex* (multiple) (Moore and Gregory, 2007). In human, several authors have described the occurrence of gall bladder anomalies. Oyar *et al.*, (2003) and Patel *et al.*, (2008) reported the occurrence of bilobed or septated gallbladder in patients with a recurring right upper quadrant pain. Milot *et al.*, (2005) also encountered double gallbladder in a patient with similar pain. The bilobed gallbladder has been encountered in higher vertebrates such as cats with an incidence rate of 10% (Martinoli *et al.*, 1993). Domestic species other than cats have a lower incidence of gallbladder anomalies related to their anatomical differences (Boyden, 1926).

To the knowledge of the authors', a report on either types of congenital anomaly of the gallbladder has not been reported in cattle slaughtered in Ethiopia. Therefore this is the first report of its own kind.

Abattoir case report

A bilobed gall bladder was encountered in a three years age male crossbred cattle (Friesian × Zebu) that was slaughtered at Jimma Municipal abattoir on April 3, 2012. During antemortem inspection the animal was found apparently healthy. During postmortem inspection a bilobed gallbladder was encountered. The body of the gall bladder was completely separated into two lobes by a deep cleft, resulting in a Y-shaped viscus. Both of the lobes were found distended with bile (**Figure 1**).



Figure 1. A bilobed gallbladder of an ox slaughtered at Jimma municipal abattoir.
(Photo: Mulu Gebremeskel on April 3, 2012)

Discussion

Congenital malformations or anomalies of the gallbladder are rare. Nevertheless, they are characterized by an enormous number of configurations. In human various forms of congenital gallbladder malformations have been described. Milot *et al.*, (2007) has noted that duplication of the gallbladder as a possible cause of medical and surgical problems in human that requires surgical treatment. Desolneux *et al.*, (2009) reported a Y-shaped type gallbladder and they were removed. Though gallbladder abnormalities are indicated to occur in animals, published reports were scarce in animals other than cats. Montek and Biller (1993) reported the occurrence of a congenital anomaly described as bilobed gallbladder in male domestic cat, which was not related to the cat's death. In addition, Moores and Gregory (2007)

encountered a duplex gall bladder with two separate cystic ducts associated with extrahepatic biliary disease in male cat. The duplicated gallbladder of an ox slaughtered were determined to be a bifid or bilobed being separated into two by a deep cleft while joined around the neck (Boyden, 1926; Anderson and Ross, 1958). The rarity of their occurrence might have been responsible for the scarcity of documented information on the occurrence of congenital malformations gallbladder and its clinical significance.

Conclusion

Congenital malformations of the gallbladder though they are rare in large animals, they might have clinical significance when they occur. Therefore, the proportion of their occurrence as well as their clinical significance should be studied and properly documented.

References

- Anderson, R.E. and Ross, W.T. 1958. Congenital Bilobed Gallbladder. *Arch. Surg.*, **76**, 7–12. doi:10.1001/archsurg.1958.01280190009002. recovered on July 31, 2012.
- Boyden E.A. 1926. The accessory gallbladder: an embryological and comparative study of aberrant biliary vesicles occurring in man and the domestic mammals. *Am. J. Anat.*, **38**, 177–231.
- Causey, M.W., Miller, S., Fernelius, C.A., Burgess, J.R., Brown, T.A., Newton, C. 2010. Gallbladder duplication: evaluation, treatment, and classification. *J. Pediatr. Surg.*, **45**, 443–446.
- Desolneux, G., Mucci, S., Lebigot, J., Arnaud, J.P., and Hamy, A. 2009. Duplication of the Gallbladder. *Gastroenterology Research and Practice*. doi:10.1155/2009/483473. recovered on august 04 2012.
- Gross, R.E. 1936. Congenital anomalies of the gallbladder. A review of 148 cases, with report of a double, gallbladder. *Arch. Surg.*, **32**, 131–162.
- Harlaftis, N., Gray S.W. and Skandalakis J.E. 1977. Multiple gallbladders. *Surg. Gynecol. Obstet.*, **145**, 928–34.
- Martinoli C., Derchi, L.E., Pastorino, C., and Cittadini, G. 1993. Case report: Imaging of a bilobed gallbladder. *The British Journal of Radiology.*, **66**, 734–736.

- Milot, L., Partensky C., Scoazec, J.Y., Valette,P.J., Pilleul F. 2005. Double Gallbladder Diagnosed on Contrast-Enhanced MR Cholangiography with Mangafodipir Trisodium. *A, J. R.*, **184**, 588–590.
- Moentk, J. and Biller D.S. 1993. Bilobed gallbladder in a cat: ultrasonographic appearance. *Veterinary Radiology and Ultrasound.*, **34**, 354–356.
- Moores, A.L. and Gregory, S.P. 2007. Duplex gall bladder associated with choledocholithiasis, cholecystitis, gall bladder rupture and septic peritonitis in a cat. *Journal of Small Animal Practice.*,**48**, 404–409. doi: 10.1111/j.1748-5827.2006.00268.x. recovered on august 1, 2012.
- Oyar, O., Yesildag, A., Gulsoy, U., Sengul, N., Isler, M. 2003. Bilobed gallbladder diagnosed by oral cholecysto-CT. *Computerized Medical Imaging and Graphics.*, **27**, 315–319.
- Patel, N.R., Joshipura, U.P. Haribhakti, S.P.and Soni, H.N. 2008. Septate gallbladder in the laproscopic era. *J. Min. Access Surg.*, **1**, 20-22.