DIAGNOSIS OF FETAL ANASARCA BY REAL TIME ULTRASONOGRAPY IN A PUG BITCH AND ITS SURGICAL MANAGEMENT

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ABSTRACT

Real time ultrasonography revealed increased subcutaneous edema and serous effusions in a fetus *in utero,* thus diagnosing the cause of dystocia in a Pug bitch as fetal anasarca. In brief, ultrasonography is an excellent option to diagnose the cause of dystocia in canines and caesarean section can be planned to improve the prognosis of the case.

Keywords: Dog, Fetal anasarca, Hydrops fetalis, Pug, Ultrasonography

INTRODUCTION

Fetal anasarca or Hydrops fetalis also known as 'water baby' or 'walrus baby' is characterized by generalized subcutaneous edema and fluid accumulation throughout the body. The puppy is twice the normal size often leading to dystocia. The degree of affliction may be mild, moderate or severe and may involve one or more pup in a litter. Ultrasound examination for fetal abnormalities is rarely reported in small animal medicine with a few reports on ultrasonographic diagnosis of fetal anasarca during pregnancy monitoring (Allen *et al*., 1989; Hopper *et al.,* 2004; Heng *et al*., 2011 and Cunto *et al*., 2015). The present report describes the ultrasonographic diagnosis of fetal anasarca in a Pug bitch and its surgical management.

CASE HISTORY AND OBSERVATIONS

A four-year-old Pug bitch was brought to Madras Veterinary College Teaching Hospital, Chennai with the history of normal delivery of 5 puppies. The last puppy was born 4 h back, thereafter, the bitch continued to show signs of straining without any progress. The abdominal palpation revealed a retained fetus, hence it was decided to perform an ultrasound to assess the fetal viability. Using a 5.0 MHz transducer, the ultrasound examination was performed with the animal in dorsal recumbency and the intrauterine presence of a single large non-viable fetus having increased subcutaneous edema and serous effusions was revealed (Figure 1). The case was diagnosed as fetal anasarca. Since per vaginal delivery was not possible, it was decided to perform caesarean section.

TREATMENT AND DISCUSSION

Caesarean section was performed as per the standard procedure and a anasarca fetus was delivered confirming the findings in ultrasonography (Figure 1). In a similar report, anasarca fetus was diagnosed in a near term Bichon Frise bitch using ultrasonography wherein the affected fetus was identified by the presence of intrathoracic and subcutaneous fluid and was delivered by caesarean operation along with five normal fetuses (Allen *et al*., 1989).

The genetic predisposition appears to be major cause as higher prevalence of anasarca puppies was demonstrated in several breeds viz. Bulldogs, English Bulldogs, French Bulldogs, Boston Terriers, and Pugs. The possible causes include drug therapy (Aspirin, Depomedrol and Triamcinolone), virus exposure (Infectious Canine Hepatitis caused by Adenovirus or Canine Parvovirus Type -1, CPV-1) or mechanical (anemia, impaired heart function and myocarditis,

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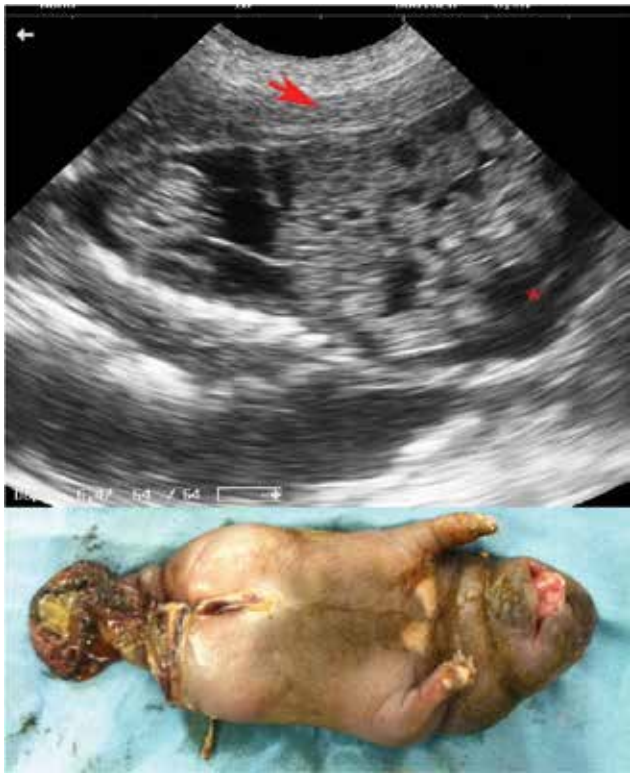

Figure 1: Anasarca fetus and ultrasonogram of fetus in a pug bitch showing increased subcutaneous edema (arrow) and serous effusions (astrix)

malformed blood vessels, low blood protein levels, malfunction of the lymphatic system, and vasculitis; Robertson *et al*., 1979). In brief, fetal anasarca causes fetopelvic disproportion leading to dystocia, however, ultrasound examination can easily reveal fetal anasarca, thus caesarean section can be planned to improve the survivability of littermates.

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