

HYDRALLANTOIS IN GERMAN SHEPHERD BITCH

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This communication documents a case of hydrallantois in a German shepherd dog. The dog was brought for pregnancy diagnosis, and an ultrasound examination revealed abnormal accumulation of anechoic fluid within the fetal membrane. Cesarean section was conducted one week later and removed two fetuses. Unfortunately, despite of initial survival, the fetuses died after surgery.

Keywords: Canine, Cesarean section, German shepherd, Hydrallantois..

Hydrops of the fetal membranes consists of an excessive accumulation of amniotic or allantoic fluid within their respective spaces. Hydrallantois is excessive accumulation of fluid in the allantoic sac (Dini *et al.*, 2020). Hydrallantois is rarely diagnosed and usually affects cattle and buffalo (Kapadiya *et al.*, 2018). The pathophysiology of hydrallantois is linked to decreased placental vascularization, impaired blood vessel function (characterized by high permeability), placental edema, and hypoxia. These factors may compromise the placenta's ability to facilitate fluid exchange between the fetus and the dam, leading to excessive fluid accumulation (Dini *et al.*, 2020). However, the condition is not commonly reported in dogs and reference ranges for amniotic and allantoic fluid depths on ultrasonography have not been reported. The present case report describes the accidental finding of hydrallantois in a German Shepherd dog presented for pregnancy diagnosis and its management.

Case history and Observations

A five year old female German Shepherd dog was presented to the Referral Veterinary Polyclinic, ICAR-IVRI, Izatnagar, with a breeding history of more than 40 days. The physical examination revealed abdominal distension and development of mammary

glands. General clinical examination was performed and the vital parameters were within normal range. The bitch was subjected to trans-abdominal ultrasonography (Siemens Acuson X300PE, USA) of lower abdomen using a curvilinear probe of 3.5 MHz frequency. The ultrasound examination revealed the presence of two live fetuses and abnormal fluid accumulation within the fetal membranes, especially in the allantois, which was incompatible with the 6th week of pregnancy in bitches. Based on the ultrasound results, the fetuses exhibited a heart rate within the normal range (225 bpm), and there were no observable fetal abnormalities such as abdominal swelling, edema in limbs and body, or reduced fetal movement. The body diameters of the fetuses were 18.7mm and 17.8mm and biparietal diameter were 12.8mm and 11.9mm suggestive of gestation period within 40-45 days. The hemogram of the bitch was normal. The overall health status of the bitch was satisfactory and no signs of distress were observed. Since the fetuses were live and gestation period was incomplete, advised the owner to present the dog after one week. The bitch was presented one week later. The ultrasonography examination revealed bradycardia in both fetuses.

Treatment

After thorough clinical evaluation, the patient was submitted to cesarean section. The surgical approach was carried out by pre anaesthetizing the animal using atropine (0.045mg/kg BW, SC), butorphanol (0.2mg/kg BW, IV) and diazepam (0.5mg/kg, IV). Anesthesia was induced by administering propofol at a dose of 5 mg/kg body weight intravenously. The patient received fluid therapy following the surgical

procedure. The two fetuses were viable at the time of surgery; however, they did not survive post-removal. Postoperative care included 5 days of antibiotic therapy (Ceftriaxone, 15 mg/kg BW, IV), pantoprazole (1mg/kg BW, IV), meloxicam (0.3 mg/kg BW, IM) as well as regular dressing of surgical site. The animal was under supervision for 10 days. Skin sutures were removed after complete healing. Animal made an uneventful recovery.

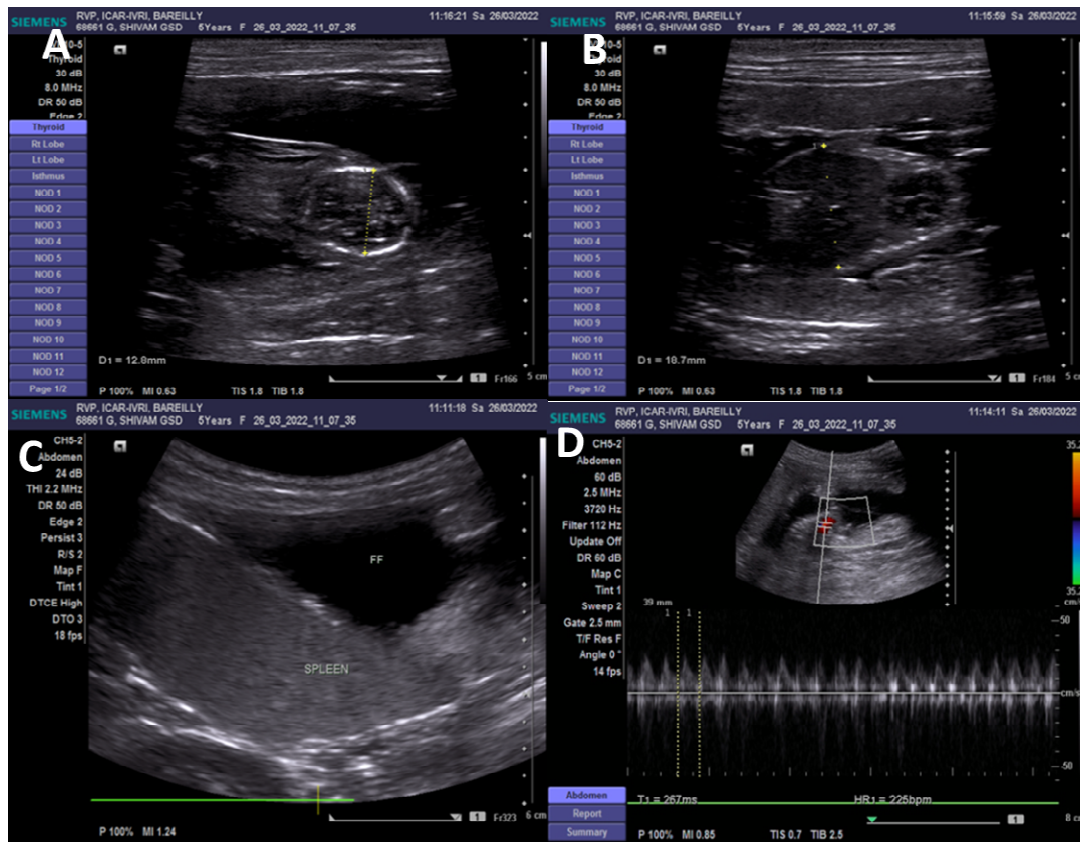


Figure 1. Mode-B ultrasound imaging of the dog fetuses with abnormal intra placental fluid accumulation (A) Presence of intra-placental fluid, (yellow arrows) and fetus (biparietal diameter: 12.8mm) (B) Fetus (body diameter: 18.7mm) (C) Fluid accumulation in the allantois area (yellow arrow) D. Image showing heart rate of fetus.

Results and Discussion

This case report details the effective management of hydrallantois in a five-year-old female German Shepherd dog. Ultrasonography played a crucial role in detecting the excessive accumulation of fetal fluid in this instance. Ultrasonographic and

surgical observations revealed a notable accumulation of allantoic fluid in two fetuses. The excessive accumulation of fetal fluids could potentially be linked to abnormalities of placenta (Dini *et al.*, 2020). However, examination of both the pups and placentas in this study did not show any gross

abnormalities. Despite clinical similarities to hydrallantois, there was a lack of histologic assessments to determine the root causes.

Conclusion

In summary, ultrasound assessment proved effective in diagnosing hydrallantois in a canine patient. The diagnosis was subsequently confirmed and successfully managed through a cesarean section.

References

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