USE OF ULTRASONOGRAPHY IN PREGNANCY DIAGNOSIS
AND RELATED REPRODUCTIVE ABNORMALITIES IN
CANINES

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Real time ultrasonography has proven to be a valuable tool for diagnosing canine pregnancy and assessing fetal viability. Fetal development, time of gestation and reproductive tract diseases are best diagnosed by ultrasonography. The embryonic heart beat and fetal skeleton has been detected as early as day 23 and day 34 of pregnancy respectively. Ultrasonographically, pyometra appeared as a fluid-filled uterus. Ascitis and pseudopregnancy in female can be mis-diagnosed with pregnancy and can be effectively differentiated using ultrasonography. Thus, ultrasonographic examination is an indispensable tool for veterinarians for monitoring fetal growth, assessing gestational age and prediction of parturition.

Keywords: Ascitis, Pseudopregnancy, Pyometra, Ultrasonography

Real time ultrasonography has proven to be a valuable tool for diagnosing canine pregnancy and assessing fetal viability. An early and reliable pregnancy test may contribute to efficient reproductive management in canines (Taverne et al., 1985). Fetal development, time of gestation and reproductive tract diseases are best diagnosed by ultrasonography. Ultrasound to detect pregnancy is safe and best method to determine fetal well being. Ultrasound is especially useful between days 33-45, because it is too late to palpate and too early for radiographs. Moreover reproductive abnormalities are also encountered during this period of gestation.

Materials and Methods

Present study involved a total of 50 bitches presented at TVCC, Khalsa College of Veterinary and Animal Sciences, Amritsar. Out of the total bitches examined by ultrasonography, 23 were pregnant, 13 were non pregnant, 3 were pseudopregnant, 9 affected with pyometra and 2 with ascitis. Animals were positioned in dorsal recumbency. After proper shaving of the abdomen, a water based gel was applied and the ultrasound transducer (3.5MHz) was first positioned at caudal abdomen, imaging the urinary bladder first, then examining dorsally for the uterine body. Optimally, a full bladder prior to the examination serves as a useful landmark. The uterine horns bend in multiple directions rather than lie in a straight line when a large litter was present, and fetuses were seen literally anywhere in the abdomen.

Results and Discussion

The normal uterus was difficult to visualize in the dog. The uterine horns were difficult to visualize unless they were enlarged. Yeager and Concannon (1990); Yeager et al. (1992) reported the ultrasonographic appearance of a gravid uterus after detail study. The embryonic heart beat was detected as a bright echogenic flicker as early as 23 days after mating. Fetal heart rate was used as a parameter to detect the survivability of fetuses. The fetal skeleton is evident by day 34 of pregnancy. The skeleton becomes more obvious in late pregnancy and the skull, spinal column and ribs are easily identifiable (Fig.1).

Transabdominal uterine ultrasonography is a useful and reliable diagnostic method to diagnose pyometra as was also mentione by Bigliardi et al. (2004). Ultrasonographically, pyometra appeared as a fluid-filled uterus. The fluid may be anechoic, but often will have echogenic particles within it. The uterine wall may initially be edematous and thickened, but with increasing uterine distension, it can become very thin (Fig.2). The classic time pyometra is diagnosed two months after the bitch was in estrus. An advanced pregnancy can be misinterpreted as pyometra or vice versa as also narrated by Arnold et al. (2006).
Canines exhibit pseudo pregnancy 6 -12 weeks post estrus. The cases in which bitch was found exhibiting pseudopregnancy the main symptoms were weight gain, mammary gland hyperplasia, lactation and nesting. Ultrasonography gives a clear cut demarcation of pregnancy from pseudopregnancy. It is uncommon to detect fetal abnormalities in the bitch, since there are usually multiple fetuses and it is difficult to fully examine each as also reported by Sridevi (2013). Ascitis in female can also be misdiagnosed with pregnancy. Abdominal ultrasound revealed anechoic effusion and floating viscera in ascitis (Fig .3). So, ultrasonography is very effective in differentiating ascitis from pregnancy.

Thus, ultrasonographic examination is an indispensable tool for monitoring fetal growth, viability and related reproductive abnormalities.

References


