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Canine neonatal septicaemia in one dog litter deprived of colostrum: case report
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Bacterial infection is one important cause of disease and death in canine neonates [1]. Colostrum is very important for the protection of the puppy and prevention of infection since it is the source of passive immunity [2]. In cases that puppies do not have access to colostrum, supplementation with canine plasma has been attempted, but it did not result in a better outcome [3]. A case of coinfection with three gram negative bacterial agents in premature orphan canine neonates deprived of colostrum is described. A pregnant mixed breed bitch was diagnosed with vaginal Transmissible Venereal Tumor (TVT). In face of the risk of distocia and TVT transmission to the offspring during vaginal delivery, caesarean section was recommended. Five puppies were born healthy, with strong suction reflex. The bitch had no colostrum at the time of surgery. To prevent transmission of TVT, the puppies were separated from their mother and the puppies were fed a commercial powder milk formula. Two days after birth, one puppy became depressed, with reduced suction reflex, and weight loss. Tube feeding was instituted, but the puppy died within 12 hours of the beginning of the clinical signs, while the remaining four puppies started to lose weight. Therapy with azithromycin was instituted and the milk replacer was changed, but at the same day two other puppies died. Despite intensive care, the forth puppy died on day seven. Necropsy was performed immediately after each death, and the lesions were compatible with bacterial infection, including: ulcerative dermatitis with deep cellulitis, serohaemorrhagic peritonitis, and multifocal bronchointerstitial pneumonia. The fourth puppy also presented meningoencefalitis and choroiditis. Bacilli were seen microscopically in the lesions. Samples of lungs, liver, kidney, spleen and blood were submitted to routine bacteriology along with samples of the powder and the reconstituted milk. *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, and *Proteus mirabilis* were isolated from tissue samples and from the reconstituted milk. Additionally, *Escherichia coli* was also isolated from the reconstituted milk. *Bacillus cereus* was isolated from the powder milk. According to the antimicrobial sensitivity test employed, *P. aeruginosa*, was sensitive to azithromycin, *K. pneumoniae* presented intermediate resistance and *P. mirabilis* was resistant. All three bacteria were also resistant to sulfa-trimethoprim and sensitive to gentamicin, ciprofloxacin, and ceftriaxone. Although, one of the neonates responded to azithromycin therapy and survived. The bacterial organisms found in the reconstituted milk and not the powder milk, suggests that the contamination occurred during its preparation. This highlights the importance of good hygiene practices during neonatal care, and the vulnerability to infection of the canine neonate deprived of colostrum.