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Beta-hemolytic Streptococcus isolated from cranial vagina in bitch with healthy litters and litters with neonatal deaths

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Bacterial infectious diseases are a frequent cause of canine neonatal deaths[1]. In human, vertical transmission of beta hemolytic Streptococcus from mother to the neonate causes serious infections and neonatal sepsis3. The aim was to study the presence of beta-hemolytic Streptococcus in bitch with and without neonatal deaths condition. Fifty one bitches of different dog breeds (Inglis Bulldog, French Bulldog, German Shepherd, Dogo Argentino, Dogue de Bordeaux, Pug, Schnauzer, Bernese, Labrador, Great Dane) were used. Twenty eight bitches had healthy litters (G1) and twenty three had neonatal deaths in his litters (G2). Two vaginal samples were taken, one in proestrus (PR) and the other at the end of gestation (EG; 40 to 45 days after the first day of cytolical diestrus). Beta-hemolytic Streptococcus was isolated from 16 bitches (57%) with healthy litters and from 21 bitches (91%) whit neonatal deaths in the litters. The bacteriological cultures, serological tests (Streptex® and PCR assay allowed identify Streptococcus canis and Streptococcus dysgalactiae in G1 and G2. Ultramicroscopic studies were done in strains isolated from G1 and G2 group. In G1 Streptococcus canis was isolated from 5 females in PR and Streptococcus dysgalactiae was isolated in 5 females in EG. In four bitches Streptococcus canis was isolated only in PR. In two bitches Streptococcus dysgalactiae was isolated only in PR. In G2 Streptococcus canis was isolated in 13 females in PR and EG. In three bitches Streptococcus canis was isolated only in PR. Streptococcus dysgalactiae was isolated in 4 females in PR and EG. In one bitch Streptococcus dysgalactiae was isolated only in PR. Ultramicroscopic study, allowed identify M protein in strains from G1 and G2 and only on strains of G2 a capsular layer was found [2]. All beta-hemolytic Streptococcus isolated were penicillin sensitive. Antibiotics were administered since the end of gestation until 5 days after parturition in seven G2 females with isolation of Beta-hemolytic Streptococcus in PR and EG (six bitches with S. canis and one bitche with S. dysgalactiae) and 100% of survival was obtained in the litter. Four G2 females (two bitches whith S. canis and two bitches with S. dysgalactiae) were not treated at de end of gestation, 28 puppies were born and 26 died. In G1 groups no neonatal deaths were recorded. Our results suggest Streptococcus canis and Streptococcus dysgalactiae are involved in canine neonatal deaths, but like occurs in human not all neonates are infected at birth[3]. Capsule could be a virulence factor responsible for puppy infection. Probably, in the bitch, puppies could infected at birth or postpartum by streptococcus present in vulvar discharge. In this way puppies from bitch subject to caesarian could present the problem. Treatment in bitches at the end of gestation and in the postpartum allows neonatal survival.