World Academy of Science, Engineering and Technology
International Journal of Animal and Veterinary Sciences
Vol:14, No:09, 2020

Congenital Malformations in Neonate Dogs in the Sao Paulo State University Veterinary Hospital, Botucatu, Sao Paulo, Brazil

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Abstract : Congenital malformations are organ defects due to genetic or teratogenic causes, which can lead to high mortality in dog litters. This study assessed and described the congenital malformations in newborn dogs. The study included litters attend in the São Paulo State University (UNESP) Veterinary Hospital, Botucatu, Sao Paulo, Brazil. One hundred seventy-eight litters and 803 newborns were evaluated. The occurrence of litters with malformations was 24.7%, and of newborns was 6.7%. Twenty-seven different malformations were registered: anasarca, anal atresia, cleft lip, cleft palate, duplicated right ribcage, equinovarus, exencephaly, gastroschisis, hydrocephaly, lissencephaly, macroglossia, microphthalmia, mitral valve dysplasia, omphalocele, eyelid agenesis, persistent urachus, polydactyly, pulmonary hypoplasia, pulmonary valve stenosis, rectovaginal fistula, agenesis of abdominal muscles, rib hypoplasia, scoliosis, segmental aplasia of the intestines, tricuspid valve dysplasia, unilateral kidney agenesis, and vaginal atresia. 68.7% of newborns died as a result of malformations. The pure breeds with the highest chances of manifesting malformations in contrast with mixed breeds were French Bulldog, Pug, English Bulldog, Rottweiler, German Spitz, Pinscher, Pitbull, Yorkshire Terrier, and Shih-Tzu. Significant values ($P<0.05$) occurred in races French Bulldogs and Pugs. The causes of congenital disabilities are possibly related to hereditary genetic factors considering that the highest incidence of malformations was observed among purebreds. There as one case of exposure to a teratogenic agent, but no other mothers were exposed to such agents during pregnancy. Two cases of consanguineal breeding between siblings were reported. The mortality rate was high. Genetic breeding programs for reproduction, avoiding consanguineous mating, care in choosing parents, and avoiding maternal exposure to teratogenic agents are of utmost importance in reducing dog malformations and consequent mortality.

Keywords : congenital defects, teratogenesis, canine neonatology, newborn puppy
Conference Title : ICSAPVC 2020 : International Conference on Small Animal Pediatrics and Veterinary Care
Conference Location : Lisbon, Portugal
Conference Dates : September 16-17, 2020