

Effects of Umbilical Cord Clamping on Puppies Neonatal Vitality

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Abstract : In veterinary medicine, the standard procedure during a caesarian section is clamping the umbilical cord immediately after birth. In human neonates, when the umbilical cord is kept intact after birth, blood continues to flow from the cord to the newborn, but this procedure may prove to be difficult in dogs due to the shorter umbilical cord and the number of newborns in the litter. However, a possible detachment of the placenta while keeping the umbilical cord intact may make the residual blood to flow to the neonate. This study compared the effects on neonatal vitality between clamping and no clamping the umbilical cord of dogs born through cesarean section, assessing them through Apgar and reflex scores. Fifty puppies delivered from 16 bitches were randomly allocated to receive clamping of the umbilical cord immediately (n=25) or to not receive the clamping until breathing (n=25). The neonates were assessed during the first five min of life and once again 10 min after the first assessment. The differences observed between the two moments were significant ($p < 0.01$) for both the Apgar and reflex scores. The differences observed between the groups (clamped vs. not clamped) were not significant for the Apgar score in the 1st moment ($p=0.1$), but the 2nd moment was significantly ($p < 0.01$) in the group not clamped, as well as significant ($p < 0.05$) for the reflex score in the 1st moment and 2nd moment ($p < 0.05$), revealing higher neonatal vitality in the not clamped group. The differences observed between the moments (1st vs. 2nd) of each group as significant ($p < 0.01$), revealing higher neonatal vitality in the 2nd moments. In the no clamping group, after removing the neonates together with the umbilical cord and the placenta, we observed that the umbilical cords were full of blood at the time of birth and later became whitish and collapsed, demonstrating the blood transfer. The results suggest that keeping the umbilical cord intact for at least three minutes after the onset breathing is not detrimental and may contribute to increase neonate vitality in puppies delivered by cesarean section.

Keywords : puppy vitality, newborn dog, cesarean section, Apgar score

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