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Natural and artificial hyperimmune solutions: impact on health in puppies
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Colostrum and milk are complex mammary secretions providing the puppy with many nutritional and immunological factors, which play a crucial role for its correct development and survival. In the case of colostrum and/or milk intake deficiency, puppies are at increased risk of infectious diseases. This work reviews the various nutritional hyperimmune supplementations proposed to provide a passive immune protection and to positively impact puppies’ health. Some strategies rely on canine immunoglobulins: canine colostrum banking and canine serum/plasma supplementation. Others involve heterologous sources of antibodies and other immune factors: bovine colostrum or hyperimmune egg powder. Among the different solutions evaluated from birth to weaning, canine plasma and hyperimmune egg powder, showed promising beneficial effect on puppies’ health. Canine plasma seems to positively impact not only growth (increased growth during the neonatal period), but also digestive health (higher species richness of intestinal microbiota) and the general health (tendency of lower morbidity). Puppies supplemented with hyperimmune egg powder presented increased neonatal growth and decreased risk of canine parvovirus infection. Nevertheless, natural canine maternal colostrum and milk ingestion remains the optimal guarantee for puppies’ health and survival, as a source of immunity, energy and growth factors.