

# Comparative research regarding the hematological and biochemical blood profile in hypovolemic and toxicoseptic shock conditions, in dogs

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## **Abstract**

*The purpose of this paper is to make a comparative study between two evolution forms of shock with different etiologies, namely hypovolemic shock and toxicoseptic shock in dogs. This comparison took into account two groups of parameters, the hematological and the biochemical blood values. In order to carry out our study we took for analysis 15 dogs, of different breeds and aged between 1 and 12 years, diagnosed with shock. Depending on the etiology of the shock, the cases were grouped into two categories: animals in hypovolemic shock (n = 10) and animals in toxicoseptic shock (n = 5). The animals in the first category were grouped into two groups: dogs in post-hemorrhagic hypovolemic shock (n = 5) and dogs in post-dehydration hypovolemic shock (n = 5). Blood samples were used from the animals studied to determine: plasma calcium, lactic acid, plasma albumin, total plasma proteins, leukocyte count, hematocrit, hemoglobin and plasma fibrinogen. Hematocrit and hemoglobin were elevated in animals with post-dehydration shock. Hematocrit and hemoglobin were low in dogs with posthemorrhagic shock. Leukocytes were increased in animals with toxicoseptic shock. Fibrinogen showed elevated levels in dogs with toxicoseptic shock and those with post-dehydration shock. Lactic acid was recorded with high values, which exceed the reference values, in the case of all three experimental groups. Calcium, plasma albumin and plasma protein levels were decreased in all three experimental groups.*

**Key words:** hypovolemic shock, toxicoseptic shock, leukocyte, hematocrit, hemoglobin.