ANTIVENOM TREATMENT IN CASES OF VIPERA PALAESTINAE BITES IN DOGS

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Vipera palaestinae (Vp), is the most common poisonous snake in Israel and is responsible for most envenomations in humans and domestic animals. The mortality rate reported in dogs due to Vp envenomations is 3.7-4%. In humans, the mortality had decreased sharply from 6–10% to 0.5–2% since the introduction of specific antivenom therapy. There is no standard treatment protocol for Vp envenomation in dogs or humans.
The goal of this study was to evaluate the effectiveness of specific antivenom therapy in dogs and identify the clinical characteristics of dogs bitten by Vp.

Hospital records were retrospectively reviewed for VP envenomations in dogs. The data included: signalment, case history, physical examination, laboratory data, envenomation date and time, time lag from envenomation to presentation at the hospital, and the clinical signs with their progression during hospitalisation. Details of hospitalisation, period, treatments, outcomes and complications were recorded.

The following variables were associated with mortality: body weight below 15 kg, limb envenomation, envenomation at night, severe lethargy, hypothermia, systemic bleeding, shock, dyspnoea, tachycardia, thrombocytopenia, and glucocorticosteroid therapy. The mortality rate was 4%. Combination of fluid therapy, steroids, antibiotics and specific antivenom therapy are the treatments most often employed. Specific antivenom therapy was administrated to 62% of the dogs. No difference in mortality rate was observed between dogs receiving antivenom compared with untreated dogs.

Specific antivenom therapy (10 ml/dog) was not associated with a higher survival rate. This might be explained by the time lag from envenomation to treatment initiation, selective administration of antivenom to dogs presented with worse clinical signs, economic considerations of the owners and relatively low doses being used.

Based on the data from human medicine, there is every reason to believe that correct specific antivenom therapy should reduce mortality in dogs as well. Therefore, higher antivenom doses should be considered for the treatment of dogs presenting severe clinical signs or risk factors for mortality, while dogs with no evidence of systemic signs may do well without any antivenom.

References:

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