

Società Italiana delle Scienze Veterinarie

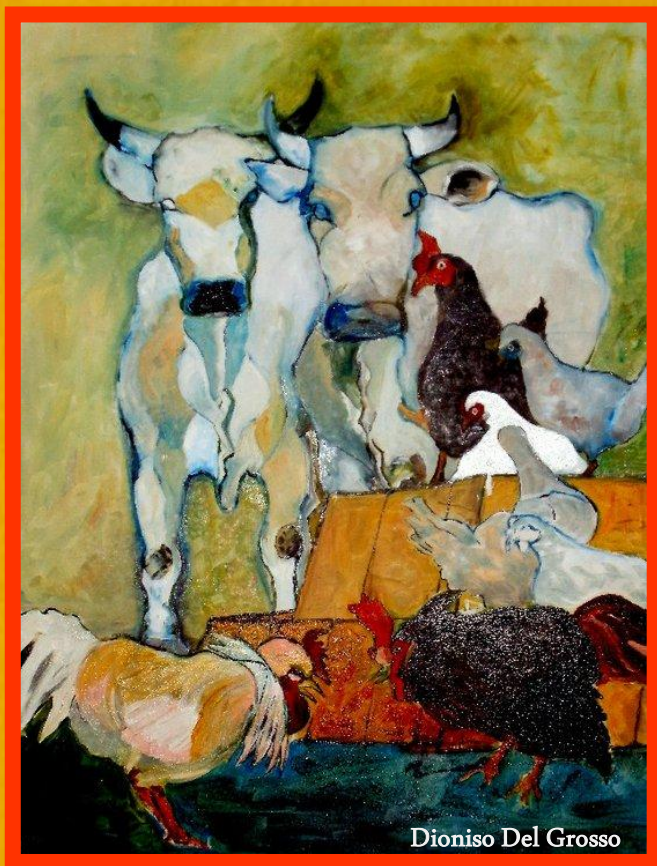
in collaborazione con



UNIVERSITÀ
DEGLI STUDI
DI TORINO



CENTRO
UNIVERSITARIO
SPORTIVO
TORINO



Dioniso Del Grosso

20-22 Giugno 2018

**XVIII
Convegno
SICV**

**XVI Convegno
SIRA**

**XV Convegno
AIPVET**

**X Convegno
ARNA**

**V Convegno
RNIV**

**II Convegno
ANIV**

**I Convegno
SICLIM-Vet**

**Giornata
Studio AIVI**

**Giornata
Studio
SOFIVET**

Sede:

MBC
Via Nizza 52
Torino

Con il patrocinio di



72° CONVEGNO SISVET



A RETROSPECTIVE EVALUATION OF *VIPERA ASPIS* ENVENOMATION IN DOGS TREATED WITH AN EQUINE-DERIVED F(ab')₂ VIPERID ANTIVENOM

Rosalba Tognetti (1), Michele Vanni (1), Valentina Meucci (1), Sandro Parti (2), Luigi Intorre (1)

(1) Università degli Studi di Pisa, Dipartimento di Scienze Veterinarie, Pisa, Italia. (2) Sclavo Diagnostics International, Sovicille, Siena, Italia.

Viper snakebite is an important health problem in dogs in Italy, where four poisonous species of the *Vipera* genus are commonly found: *Vipera aspis*, *Vipera berus*, *Vipera ammodytes* and *Vipera ursini* [1]. The clinical features of viper envenomation in dogs are characterized by local tissue injury and systemic signs, including increased vascular permeability, hypotension, hemolysis, anemia, thrombocytopenia, coagulopathy, respiratory depression, myonecrosis, nervous system dysfunction, and acute renal failure [2]. This study describes the clinicopathologic signs and the outcome in dogs envenomed by *V. aspis* treated with an equine-derived F(ab')₂ viperid antivenom (Sclavo Diagnostics International Srl, Siena, Italy) [3]. The study protocol was approved by the Ministry of Health, Department of Veterinary Public Health, Food Security and Bodies for Health Protection (DGSAF 001453-P-01/08/2012). The medical records of 80 dogs presented to 13 veterinary facilities in Tuscany and diagnosed with *V. aspis* envenomation were retrospectively reviewed. Data included the signalment, date, history, physical examination and laboratory findings, disease progression, treatment, hospitalization time period and outcome. Data were statistically analyzed with Fisher's exact test and Student's t-test. A value of $P < 0.05$ was considered significant. Before treatment, envenomed dogs mostly showed decreased sensory response (58/80), hematuria (38/80), tachypnea and/or tachycardia (34/80). The most common clinical pathology abnormalities were increased creatine kinase, alkaline phosphatase and aspartate transaminase (33/80), prolonged prothrombin time (PT) and activated partial thromboplastin time (aPTT) (27/80), proteinuria and increased urine protein-creatinine ratio (27/80). All dogs received fluid therapy, glucocorticoids and the viperid antivenom, which was administered by intravenous infusion or subcutaneous injection at the dosage of 1 ml/kg (100 mg/kg) body weight. Five dogs died during the study (6% mortality rate), after an average time of 4 days following the bite (range 1-15 days). The large majority of the dogs included in this study (75/80) survived following the administration of the specific equine-derived F(ab')₂ viperid antivenom. The antivenom resulted effective in stabilizing or reversing the effects of progressive envenomation syndrome and in improving the clinical conditions within 8 hours. On the contrary, no significant change was observed in the hematological and coagulative parameters and a significant worsening was observed for WBC and RBC count ($P < 0.05$). In conclusion, the specific equine-derived F(ab')₂ viperid antivenom was associated with an improvement of neurologic and other systemic effects and the resolution of most of the clinicopathologic signs in the envenomed dogs.

[1] Zuffi MAL, Bonnet X. Italian subspecies of the asp viper, *Vipera aspis*: Patterns of variability and distribution, Italian Journal of Zoology, 66:87-95, 1999. [2] Turković V et al. European Adder bites in dogs in southern Germany. A retrospective study over a 6.5-year period, Tierärztliche Praxis. Ausgabe K, Kleintiere/Heimtiere, 43:221-230, 2015. [3] Vanni M et al. A prospective multicenter observational study of *Viperidae* polyvalent immune F(ab')₂ antivenom for the treatment of viper envenomation in dogs, Journal of Veterinary Emergency and Critical Care, submitted.