ARTERIAL PRESSURE CHANGES AFTER 7,5% HYPERTONIC SALINE SOLUTION INFUSION IN HEALTHY ANESTHETIZED DOGS

Schuszler Larisa, S. Bolte, C. Igna

Faculty of Veterinary Medicine Timișoara, Calea Aradului no. 119, 300645 Timișoara, Romania, larisaschuszler@yahoo.com

Keywords: 7,5% hypertonic saline solution, acepromazine, medetomidine, xylazine, dog

SUMMARY

Fluid therapy is a vital objective of whatever anesthetic plan because most anesthetics induce developing of hypotension even in therapeutically doses (1). The choice of a certain fluid represents a highly disputed subject (3). Motivated by the desire to find an efficient alternative to intraanesthetic classical fluid therapy we have study the evolution of arterial pressure after 7,5% hypertonic saline solution (HSS) infusion in healthy anesthetized dogs. The research was carried out on 8 dogs. There was a period of at least 7 days between two experiments on the same subject. Each dog was anesthetized in different days with acepromazine, xylazine and medetomidine administrated at highest dosage (control groups); on identical condition of anesthesia 7,5% HSS 4 ml/kg was infused IV during 5 minutes (experimental groups), at variable periods of time after the administration of anesthetics. Invasively (animals were catheterized a day before), before anesthesia and during 70-90 minutes after, were monitorised systolic, diastolic and mean arterial pressures (SAP, DAP and MAP). Obtained data were statistically analyzed using the T-student and the ANOVA tests.

The infusion with HSS after acepromazine, significantly fights its hypotensive effect. SAP, DAP and MAP were maintained at superior values as compared to those recorded on the acepromazine-control group and visibly above the risk limit. Under the same experimental circumstances, the HSS infusion under α2-adrenoceptor agonists anesthesia, also modifies the dynamic of the three parameters. It noticed that both xylazine and medetomidine induced a temporary increase of arterial pressure followed by hypotension, more evident in case of medetomidine use. For the groups perfused with HSS, this fact was completely annihilated; the MAP improvement was obvious and it maintained at the same values during the whole surveillance period of time. Similar results to those recorded after HSS may be getting by the usage of colloidal solutions (2). Comparable data to those obtained in the present study have also been noted in healthy horses (4).

The HSS infusion kept the values of arterial pressure in the experimental groups at a level significant superior to that recorded in the corresponding control group, confirming its efficiency in counteringact low blood pressure during anesthetic period.