

## Epidural Distribution of Injected Contrast Medium and Dye According to the Posture and Death in Dogs

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**Purpose:** Effects of posture and death on epidural distribution of contrast medium and dye injected into the lumbosacral epidural space was examined in beagle dogs.

**Materials and Methods:** Dogs received 0.2 ml/kg of contrast medium and dye solution at the lumbosacral epidural space under total intravenous anesthesia (TIVA) with propofol during experiments. They were randomly assigned to four groups and positioned to sternal (group I), lateral (group II) and dorsal (group III) recumbency after epidural injection. Thirty minutes later, they were euthanized with intravenous administration of KCl solution under TIVA and laminectomy of vertebrae was performed to examine the cranial distribution of dye in the epidural space. In group IV, the epidural injection procedure was performed after euthanasia and positioned in lateral recumbency for 30 minutes, and laminectomy was followed. The extent of cranial distribution of the dye as indicated by the staining of periosteum and the dura mater was measured from the injection site.

**Results:** Distribution of dye dorsal and ventral to the dura mater was similar within each group. There was no difference of distribution on left and right side of the dura mater, neither. The mean ( $\pm$ SD) number of stained vertebrae in the group I ( $14.5 \pm 4.9$ ) was significantly lesser than those of group II ( $19.2 \pm 3.3$ ) and III ( $20.0 \pm 2.9$ ), which were similar together ( $P < 0.01$ ). Group IV ( $15.3 \pm 5.6$ ) showed slight greater distribution than that of group I, but significantly lesser than those of group II and III ( $P < 0.05$ ).

**Conclusion:** Epidural distribution was influenced by the position after epidural injection and death. It is considered that there may be physiological and anatomical effects of the epidural space on distribution after epidural injection in dogs.

**Key words:** epidural distribution, contrast medium, dye, posture, dogs

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