

## Safety Evaluation of Intravenous Injection of Autologous Adipose Tissue-derived Stem Cells in Dogs

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**Purpose:** To prove safety of intravenous injection of adipose tissue-derived stem cells (ATDS) in dogs, provide the basis of research about intravenous utilization of adipose tissue-derived stem cells.

**Materials and Methods:** Experimental groups were divided as saline wash buffer solution injection group (10ml), low dose ATDS group ( $2.5 \times 10^7$  cells/10ml) and high dose ATDS group ( $7.5 \times 10^7$  cells/10ml). Also, two different intravenous injections were performed in each group : 2 ml/min/kg injection rate and bolus injection. Each group has 3 dogs. Temperature, pulse rate, respiratory rate and acute side-effects were observed before injection and every 5 minutes after injection until 30 minutes. Subacute toxicological tests including neurologic examination, auscultation, hematological exam, serological test and clinical sign were evaluated periodically for 4 weeks.

**Results:** There was no acute anaphylactic reaction after injection in all groups. Remarkable abnormal conditions such as abnormal neurological behavior, liver damage, kidney damage, peripheral embolism, cardiac arrest or death were not observed for 4 weeks after injection in all groups.

**Conclusion:** The results suggest that intravenous injection of autologous adipose tissue-derived stem cells in dogs could be used safely.

**Key words:** intravenous injection, adipose tissue-derived stem cells, dog

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