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## Veterinarni Medicina

### Reduction of epidural fibrosis after laminectomy in rabbits by omental free graft

Brkljaca Bottegaro N, Kos J, Pirkic B, Smolec O, Grabarevic Z, Hohsteter M, Selanec J, Vrbanac Z:

Veterinarni Medicina, 58 (2013): 25-31

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Epidural fibrosis is an extradural scar tissue formed after a laminectomy procedure. It is associated with persistent pain after spinal surgery and an increased risk of complications during revision surgery. The aim of this study was to determine the preventive effects of local application of an omental free graft in minimising spinal epidural fibrosis in a rabbit laminectomy model. Twenty two rabbits were randomly divided in two groups, a control group of seven and an experimental group of 15 animals. A dorsal laminectomy at levels  $L_1$  to  $L_3$  was performed on each rabbit of both groups. Prior to the laminectomy procedure, the

animals from the experimental group were submitted to a laparotomy in order to obtain the free omental graft. The graft was then applied to the same animal at the dural defect. All rabbits were euthanised six weeks after surgery and spine segments L<sub>1</sub> to L<sub>3</sub> were removed.

Histological sections were evaluated for fibrosis intensity at the laminectomy level, the adhesion degree between *dura mater* and fibrous tissue and the presence of the foreign body reaction. A statistically significant correlation was established for the foreign body reaction presence and belonging to the group, which can be explained by the omental effects on inflammation reduction and healing promotion. The degree of adhesion between the *dura mater* and fibrous tissue and the intensity of the fibrous tissue at the laminectomy level were lower in the experimental group although the differences were not statistically significant. The use of free omental grafts is thus a promising technique in epidural fibrosis prevention.

**Keywords:**

spinal surgery; extradural fibrous tissue;  
omentum; rabbit model

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