

Introcordal Injection of Autologous Fibroelastic Cartilage

Introcordal Injection of Autologous Fibroelastic Cartilage in the Paralyzed Canine Vocal Fold

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Objectives : Vocal fold augmentation by injectable material under direct visual control is an easy and simple operation. However, when autologous fat or bovine collagen is used, resorption creates a problem. And autologous fascia is debating about absorption now days. This study is to evaluate the histology of minced and injected autologous auricular cartilage and fat graft in the augmentation of unilateral vocal fold paralysis using a canine model.

Methods : Nine dogs were operated. At first, a piece of auricular cartilage was harvested from ear and minced into tiny chips with a scalpel. And also, a piece of fat tissue was harvested from inguinal area and minced into tiny chips with a scalpel. Cutting off a section of the recurrent nerve paralyzed the right vocal fold. The minced cartilage and fat-paste (0.2ml) was injected using a pressure syringe into the paralyzed thyroarytenoid muscle under direct laryngoscopy. Two animals were sacrificed at 3 days, three at 3 weeks, two at 3 months, one at 6 months, one at 12 months. Each dog underwent laryngectomy and serial coronal sections of paraffin blocks from the posterior part of the vocal fold were made.

Results : There was no significant complication perioperatively and during follow-up. There was acute inflammatory findings in the graft at 3 days and 3 weeks. The injected cartilage remained in the larynx until 12 months.

Conclusion : The autologous auricular cartilage graft is well tolerated and may be very effective material for volumetric augmentation on paralyzed vocal cord.

KEY WORDS : Vocal cord paralysis · Autologous cartilage graft · Autologous fat · Histology.

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