

Tracheal anastomosis with new fibrin glue in an animal model.

[Persian]

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Abstract:

Background: Tracheal anastomoses are common parts of upper respiratory airway surgeries. Anastomosis is currently performed using Vicryl sutures or staples. Due to the high prevalence of postoperative tracheal stenosis, efforts have been made to find alternative methods. This study compared the use of new fibrin glue in tracheal anastomosis with the classic method. **Methods:** Eight dogs of similar sex, weight, and race were included in this experimental trial. The surgery was performed in two different stages. In each stage, two rings of trachea were resected. In the first stage, anastomosis was performed with the new fibrin glue. In the second stage, the anastomosis was performed classically. After two weeks, the regions of anastomosis were resected for pathologic evaluations. **Findings:** There was a statistically significant difference in the mean duration of operation between the two methods (5.94 minutes using the fibrin glue method and 9.75 minutes using the classic method) and the mean tracheal diameter after anastomosis (25.59 mm and using the fibrin glue method and 24.14 mm using the classic method). In gross evaluation, there was not a significant difference between two different types of anastomosis. According to microscopic study, attachment was performed completely in all cases. **Conclusion:** Anastomosis with new fibrin glue was faster and with less postoperative stenosis and fewer complications compared to the classic method. Therefore, we claim this method as a suitable substitute for the classic method of tracheal anastomosis.