

## XXXVII COMU 2018 – Congresso Médico Universitário da FMUSP

### Researches Classified – Oswaldo Cruz Awards – Surgical

#### **A comparison of two bronchial anastomotic techniques in lung transplantation by means of tridimensional tomographic analysis: the bronchial anastomotic index**

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**Background:** The objective of this study was to compare two different techniques of bronchial anastomosis in lung transplant, assessing differences in bronchial narrowing post-surgery.

**Methods:** The surgical team at our center switched between simple stitches to continuous suture to anastomose the anterior bronchial wall in lung transplant procedures. CT scans of the patients obtained three months after the surgery were subject to analysis. The cross section area of the airway at the point of anastomosis was compared with an average of the cross sections of the bronchus 5mm proximal and distal to the point of anastomosis, determining the anastomotic index (AI). Data of 32 bronchi anastomosed with continuous suture from 19 patients were compared to data of 37 bronchi anastomosed with interrupted suture from 20 patients.

**Results:** Multivariate analysis showed significant difference in bronchial diameter reduction between patients subjected to the two techniques, with no difference between the two sides in any of the groups. The bronchi anastomosed with simple stitches had a significantly larger AI than those anastomosed with running suture (mean AI 0.98 vs 0.82,  $p < 0.001$ ). A significantly larger number of bronchi subjected to this method had their AI greater than 1 comparing to bronchi anastomosed with a running suture (13 vs 1,  $p < 0.001$ ).

**Discussion:** The use of simple stitches to join the anterior bronchial wall surpasses a running suture in terms of bronchial narrowing. The interrupted suture technique seems to result in a mechanical widening at the point of anastomosis.

**Keywords:** Transplantations; Lung transplantation; Surgical anastomosis; Thoracic surgery.