



EACTS - 2011 Annual Meeting

Lisbon 25th Congress **EACTS** (European Association for Cardio-Thoracic Surgery)

A PROSPECTIVE RANDOMIZED TRIAL COMPARING STAPLER AND LASER TECHNIQUES FOR INTERLOBAR FISSURE COMPLETION DURING PULMONARY LOBECTOMY.

G Marulli¹, A Droghetti², F Di Chiara¹, F Calabrese¹, A Rebusso¹, E Perissinotto¹, G Muriana², F Rea¹
¹Padova/ITALY, ²Mantova/ITALY

Alveolar air leakage, often resulting from lung tissue traumatization during dissection of fissures, remains a challenging problem in lung surgery, leading to increased morbidity with prolonged hospitalization and greater costs. This prospective, randomized trial was designed to compare two different techniques for completion of fissures during pulmonary lobectomy.

Primary end-point was the evaluation of post-operative air leakage, secondary end-points were the evaluation of complications, hospital stay and costs.

33 patients were enrolled, 18 were treated with standard technique by using staplers (S) and 15 received laser (L) dissection. Preoperative characteristics were similar between two groups. Randomization was intraoperative after evaluation of presence of incomplete fissure (grade 3-4 following Craig's classification). A rescue treatment was allowed in case of intraoperative grade 3 (according to Macchiarini scale) air leakage after completion of fissure.

A Thulium laser 2010 nm (Cyber TM, Quanta System, Italy) was used at power of 40 watts.

Air leakage (1.8±2.5 vs 3.2±7.8 days; p=0.40), hospital stay (6.3±2.3 vs 9.4±7.6 days; p=0.18), complications (20% vs 50%; p=0.07), hospitalization costs (5137 vs 7779 euros; p=0.11) were lower in L compared with S group (not significant values). Procedure cost was significantly lower for L group (124 vs 524 euros; p<0.001), while operative time was longer (194±32 vs 163±40 minutes; p=0.02).

The use of laser dissection to prevent postoperative air-leak is effective and comparable with stapler technique. Aero-haemostatic propriety (by sealing of small blood vessels and checking air leaks) of laser allows a safe application during pulmonary lobectomy with interlobar fissure completion avoiding staplers.

Session Info: Abstracts, [] Thoracic non-oncology

Day/Date: Tuesday, October 4, 2011

Session Time: 10:30 AM - 12:00 PM