

European Respiratory Society Annual Congress 2013

Abstract Number: 3737
Publication Number: P2662

Abstract Group: 8.1. Thoracic Surgery

Keyword 1: Pleura **Keyword 2:** Systemic effect **Keyword 3:** Animal models

Title: Systemic inflammatory repercussions after pleurodesis in an experimental model of pneumothorax

Dr. Evaldo 22941 Marchi evmarchi@uol.com.br MD ^{1,2}, Dr. Tiago 22942 Ventureli tiagoventureli@hotmail.com MD ¹, Dr. Ariane 22955 Lazaro arianelazaro@yahoo.com.br ¹, Dr. Debora 22956 Careta deh0118@globo.com ¹, Dr. Marcus 22958 Carvalho marcus.carvalho@sbccv.org.br MD ¹, Dr. Andre 22972 Fruchi defruchi@hotmail.com ¹, Dr. Milena 22975 Acencio milena.acencio@incor.usp.br ² and Dr. Richard 22977 Light rlight98@yahoo.com ³. ¹ Surgical Specialties, Jundiai Medical College, Jundiai, SP, Brazil, 13216770 ; ² Pulmonology - Pleural Laboratory, InCor - University of Sao Paulo Medical School, Sao Paulo, SP, Brazil, 13216315 and ³ Pulmonology, Vanderbilt University, Nashville, TN, United States, 000321000 .

Body: Introduction: Thoracoscopy (VATS) is used for recurrent pneumothorax (PTX) to remove blebs and create pleurodesis. However, little is known about the systemic effects of different forms of VATS pleurodesis. Aim: To evaluate in an experimental model the systemic inflammatory effects produced by VATS pleurodesis. Methods: Four groups of rabbits were submitted to VATS pleurodesis. Blood samples were collected pre-operatively and after 24, 48 hours and 28 days, and assayed for total leukocyte (WBC), neutrophils, and the serum levels of IL-8, TGFb and VEGF. After 28 days the animals were sacrificed for macroscopic evaluation of pleurodesis. Results: No difference was found in WBC and neutrophils. TGFb and VEGF serum levels were undetectable. Serum IL-8 increased acutely and decreased after 28 days except in the pleurectomy group.

Serum levels of IL-8 after VATS pleurodesis in an experimental model of PTX.

	Pre-Op	24h	48h	28d	p value
Control	173	524	1045 &	136	<0.001
Gauze	262	430	960 &&	287	=0.009
Plastic Mesh	331	876	1212 ¥	772 **	=0.006
Pleurectomy	255	1304 *£	1182 £	1313 *£	<0.001
p value	NS	=0.004	NS	<0.001	

After 28 days, the pleurectomy group had significantly higher pleural adhesions (2.1 ± 0.3) than the gauze and plastic mesh abrasion groups (0.7 ± 0.5 and 0.7 ± 0.3 ; $p < 0.001$). Conclusions: Apical pleurectomy

group had more effective adhesions than gauze and plastic mesh abrasion groups. Serum IL-8 was the only parameter found elevated in all groups, peaking at 48 hours and decreasing along time, except in the pleurectomy group, showing a more persistent pleural inflammation in this particular group in comparison to the lesser invasive forms of pleural irritation (gauze and plastic mesh abrasion).