

SVIII2: SAFE AND EFFECTIVE PLEURODESIS IN NEONATES. HAVE WE FOUND THE IDEAL AGENT?

Juan Carlos de Agustín Asensio*¹, María Antonia García-Casillas¹ and David Peláez Mata¹

E-mail: Juan Carlos de Agustín Asensio — juandeagustin@mac.com

¹Hospital Infantil Universitario Gregorio Marañón, Madrid, Spain

Background Chylothorax is infrequently seen in neonates. Pleurodesis is the first line surgical technique when medical treatment fails, but the ideal agent is not found yet. We evaluate starch (a polysaccharide of amylose and amylopectin) effectiveness and safety as adhesion promoting agent.

Materials and methods In the last 3 years we used thoracoscopic pleurodesis with a starch compound to obtained pleurodesis. Demographic data and postoperative course are studied in all consecutive patients treated with this method. Thoracoscopy was performed using 2 or 3 ports of 3mm, 30 degree lens and 5 mmHg CO2 controlled pneumothorax. The lung is freed from all pleural adhesions followed by visceral and parietal pleural gentle sponge friction. Finally starch is sprayed over the lung surface and thoracic tube inserted using the lowest port orifice.

Results Surgical technique was refined after our previous experience in older children and used in 11 pleurodesis performed in 6 neonates (11–77 days old) weighing between 2,360–3,650 gr. Chylothorax was congenital in 3, one associated with a congenital pulmonary malformation in 1 patient, or secondary to surgery: aortic arc reconstruction and arterial switch in 2 patients, and aortic arc interruption surgery in another. Three were unilateral (2 right and 1 left side) and 3 bilateral chylothorax. Complete drainage cessation time was 13 days (2–28 days) with total parenteral nutrition time of 54 days (28–109 days). There was only 1 recurrence occurred in one patient in which a different commercial starch product was used. There were only 3 complications related with the surgical technique: one contralateral chylothorax and 2 chylous ascites. One prognostic associated condition observed in 3 patients were superior vena cava and subclavian vein thrombosis, which preclude adequate thoracic duct drainage. In chylous ascites a peritoneal-jugular drainage were used. Two patients finally died of multiorgan failure non related with their pleural chylothorax and technique.

Conclusions Massive chylothorax in neonates can be successfully treated by gentle mechanical pleural friction followed by starch spraying. This technique definitely promotes pleural adhesion. Chylous ascites and contralateral chylothorax are the only complications observed.

Key words chylothorax, pleurodesis