**IS4-02** Safe division of pulmonary vessels/bronchus during thoracoscopic lobectomy in children under 15 kg

Department of Pediatric General and Urogenital Surgery, Juntendo University School of Medicine\(^1\), Department of General Thoracic Surgery, Juntendo University School of Medicine\(^2\). Hiroyuki Koga\(^1\), Kenji Suzuki\(^2\), Tadaharu Okazaki\(^1\), Geoffrey L Lane\(^1\), Atsuyuki Yamataka\(^1\)

**Purpose:** During thoracoscopic pulmonary lobectomy (TPL) in larger children weighing more than 15 kg, endoscopic staples (ES) such as Endo-GIA® and endoscopic clips (EC) are used during dissection and division of the pulmonary vessels (PV) and bronchus. However, in smaller patients (<15 kg), ES/EC cannot be used readily with safety because of limited space in the thoracic cavity. We report our technique for efficient thoracoscopic dissection and safe division of the PV and bronchus in children weighing less than 15 kg.

**Method:** 5 patients weighing less than 15 kg (range: 8-15 kg; mean: 11 kg) with sequestration/congenital cystic adenomatoid malformation were reviewed. Under single lung ventilation in the lateral decubitus position, 4 ports ranging from 5-12 mm were used. After the PV and bronchus were exposed, thick silk was used to encircle them as a traction suture. By applying traction, the PV and bronchus can be exposed clearly and through counter traction, ES/EC can be applied easily.

**Result:** Using our technique, the PV and bronchus were dissected safely and efficiently and ES/EC could be applied to the PV and bronchus without difficulty. All cases had uneventful TPL (middle in 1 and lower in 4). Mean operative time was 210 minutes.

**Conclusion:** Our technique allows the PV and bronchus to be divided safely with ES/EC in children weighing less than 15 kg. Although simple, we strongly recommend our technique be used during TPL in smaller children.