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Title: Bronchoscopy for control of single lung ventilation in infants and children

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Body: Experience with selective intubation for minimally invasive thoracoscopic surgery is scarce in children. Purpose: to evaluate the role of fiberoptic bronchoscopy (FOB) for selective intubation during thoracoscopic surgery in children. Materials and Methods: Retrospective analysis of medical charts from children who underwent thoracoscopic surgery with independent lung ventilation, under FOB control, in a tertiary care center, during 2012. Results: Six patients (50% boys), median age 26 months (14 to 92 months) were submitted to surgery, 5 for lung resection due to congenital cystic adenomatoid malformation and one for resection of mediastinal adenopathies. Selective intubation was controlled with Olympus neonatal or pediatric bronchoscopes. Depending on age, different techniques were used for endobronchial blocking: double lumen Bronchopart tube, Fogarty balloon or the Amdt endobronchial blocker. Blocker placement was performed successfully at the first or second attempt but dislodgement into the trachea easily occurred during lateral positioning of the patient, so in the last cases it was done when patients were already in lateral decubitus. Dislodgement was rare during surgery. In the youngest child it was not possible to block entirely the right lung, but exclusion of the middle and lower lobes was achieved. FOB detected an inadvertent submucosal dissection with a Fogarty catheter and allowed to remove a balloon that accidentally ruptured during inflation. No other complications were reported during or after surgery. Conclusion: FOB is essential for assessment of correct positioning of endobronchial blockers or double lumen endobronchial tubes and maintenance of single lung ventilation in young children.