

## Session X, Innovations and Robotics II

### **SX1: CONVERSION RATE IN PAEDIATRIC ROBOTIC ASSISTED LAPAROSCOPIC SURGERY**

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**Background** Robotic assisted surgery is becoming increasingly popular in adults. However, its application in children is still limited. We adopted this approach in 2006, and report our overall conversion rate.

**Materials and methods** All children undergoing robotic assisted surgery under two surgeons were included. Three arms of the Da Vinci system and an open technique insertion of the primary port were used in all procedures. An additional laparoscopy port and/or percutaneous retractor were used when necessary. Theatre set up, anaesthetists, assistants and scrubbed nurses changed frequently during the study period. Data collected prospectively.

**Results** There were 26 different types of procedures in 524 children. Some patients had concomitant robotic or non-robotic procedures and 12.6% had scarring from previous surgery. The procedures were urological 58.4% and gastrointestinal 41.6%. The median age was 7.3 years (4 weeks to 17 years, 7% less than 12 months). Twenty nine patients (5.5%) were converted to an open procedure 27 and laparoscopic 2. The reasons for conversion were: inability to start or complete the procedure in 17 (3.1%) - obesity, extensive previous scarring, inflamed giant choledochal cyst, inadequate operating space, fogging and inexperienced staff ; inadequate abdominal wall muscle relaxation and/or distended loops of intestine 5 (1%); lack of instruments 4 (0.8%) and faulty robot 3 (0.6%) - camera, light source and working arm. There were no robot related complications in this series. There was no significant correlation between the rate of conversion and the learning curve, age or operator. However, the conversion rate was higher in the reimplantation of ureters and choledochal cyst groups of patients. The overall hospital complication rate was 2.7%.

**Conclusions** In this series, age and types of procedures ranged widely. Even within the learning curve period, the conversion rate of robotic surgery is comparable to that of laparoscopy.

**Key words** Robotic Surgery