

Learning Curve for Totally Thoracoscopic Lobectomy in Treating Pediatric Patients with Congenital Lung Malformation

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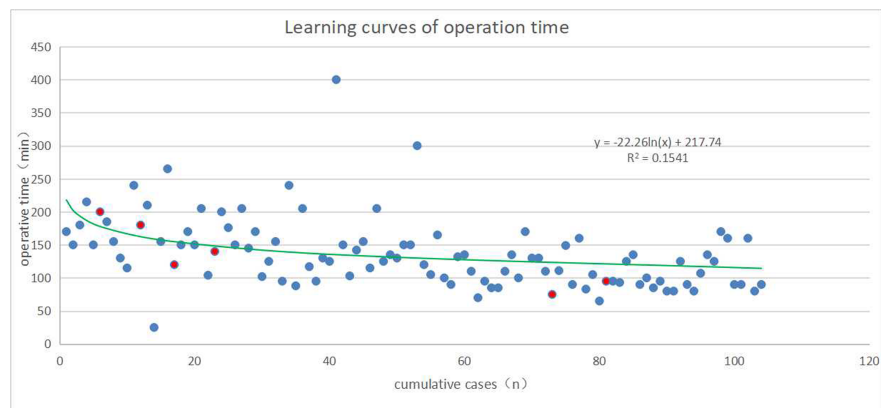
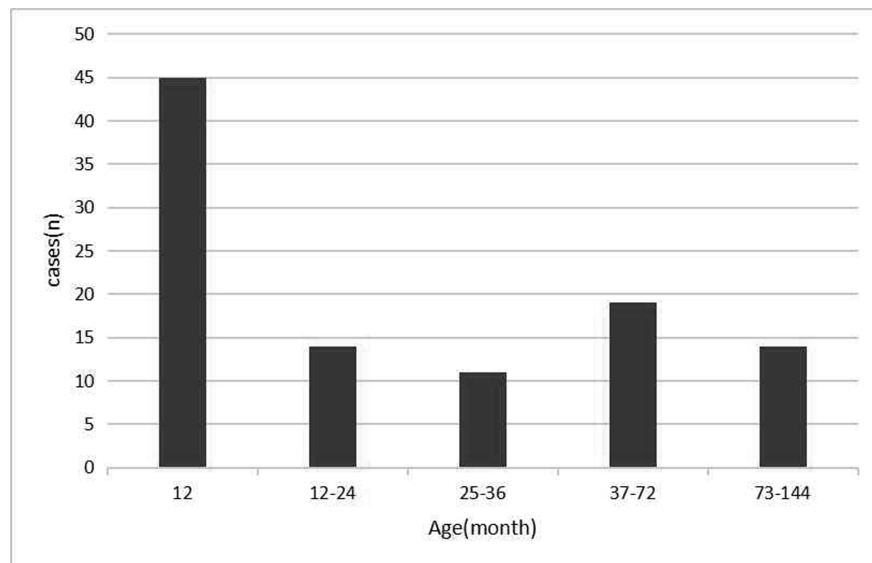
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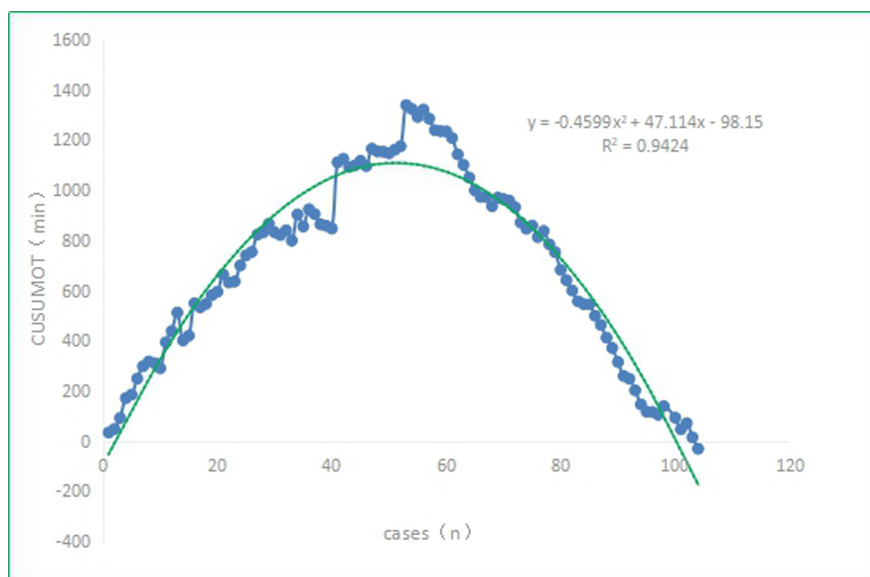
Abstract

Abstract Purpose: To evaluate our learning curve of pediatric totally thoracoscopic lobectomy (TTL), we review the safety and efficiency of our initial experiences with TTL on pediatric patients with congenital lung malformation. **Materials and Methods:** This was a retrospective study of all the pediatric patients undergoing TTL between March 2011 and January 2017. Cumulative summation (CUSUM) analysis of operative time (OT) was used. **Results:** One hundred and three patients were retrospectively analyzed and were divided chronologically into two phases, ascending phase (A) and descending phase (B), through CUSUM of OT. Phases A and B comprised 52 and 51 cases, respectively. OT decreased significantly from phases A to B ($P < 0.05$). No significant differences were observed in the demographic factors (except for age and body weight) and the conversion or the complication rates between the two phases. Six cases were converted to open surgery (5.8%). Four conversions occurred within the first third of the series and two in the last third. There were no mortalities. **Conclusions:** Repeated standardized training play a role in overcoming the learning curve for totally thoracoscopic lobectomy in children, and CUSUMOT indicates that the learning curve of around 52 cases is required in our institute.

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