-Children with complex congenital heart disease entail risk when undergoing other procedures or other interventions required for general or regional anesthesia.

-Practitioners are therefore uncertain whether these patients can safely undergo elective surgical procedures, whether they require invasively monitoring or intensive care unit admission, the relative safety of laparoscopic or thoracoscopic procedures, the type of anesthesia and qualifications of the anesthesia team required, and whether they should be referred to specialty centers.

-Physicians are keenly interested in several specific issues:
  - Which patients are likely to develop hemodynamic instability during anesthesia?
  - What factors affect postoperative hospital length of stay?
  - What factors affect postoperative mechanical ventilation?

-To examine these concerns we present our 5-year experience of patients with complex congenital heart disease undergoing surgical procedures.

-METHODS

-We reviewed the records of all patients from July 2006 to January 2011 who underwent a cardiac procedure with a Risk Adjustment for Congenital Heart Surgery-1 score of 6.

-Perioperative data were gathered to identify patients at risk for induction and postoperative hospital LOS greater than 14 days.

-We used univariate analyses to determine risk factors for induction instability, noninvasive monitoring required, and need for postoperative mechanical ventilation.

-RESULTS

-Preoperative hospital LOS was greater than 14 days or 14 days or less.

-Induction instability was independently associated with stage of palliation before cardiac surgery, shunt complexity, and postoperative use of angiotensin-converting enzyme inhibitor. See Table 4.

-Postoperative mechanical ventilation was associated only with preoperative hospital LOS greater than 14 days.

-Induction instability was independently associated with stage of palliation before cardiac surgery, complexity of the procedure, and usage of angiotensin-converting enzyme inhibitor. See Table 4.

-Postoperative hospital LOS was independently associated with preoperative hospital LOS, postoperative mechanical ventilation, and preoperative inotrope use. Longer preoperative LOS and postoperative inotropes use are indirect markers of more severe patient morbidity.

-DISCUSSION

-Preoperative hospital LOS was greater than 14 days. Children with more complex CHD, such as those in our study, are at higher risk for prolonged hospitalization leading to increased risk for postoperative mechanical ventilation.

-Postoperative hospital LOS was independently associated with preoperative hospital LOS, postoperative mechanical ventilation, and preoperative inotrope use. Longer preoperative LOS and postoperative inotropes use are indirect markers of more severe patient morbidity.

-REFERENCES