Current Trends in the PostAnesthetic Management of Pediatric Patients with Pulmonary Arterial Hypertension: Results of a Survey

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Introduction:  
Rates of perioperative cardiac arrest and death in children with pulmonary arterial hypertension (PAH) are reported to be 20 fold or greater than rates for all children undergoing anesthesia for all procedures, including catheterizations. Recent advances in the understanding of PAH, have resulted in expanded therapeutic options and dramatic improvement in disease prognosis and survival. This may impact the postanesthesia care management and disposition of these patients.

Methods:  
A survey regarding postanesthetic practices for patients with PAH was sent to congenital cardiac programs across the United States via emails, text and personal communication.

Results:  
Thirty institutions were surveyed. 5/30 (17%) were private practice and 25/30 (83%) were academic. 1/30 (3.3%) did not reply. 23/29 (79%) institutions made decisions on a case by case basis. 6/29 (21%) had formal guidelines. The guidelines of 4/6 institutions solely address those with moderate to severe pulmonary hypertension. The responses show that postanesthetic decisions are based on a combination of the following: (1) Severity, (2) Etiology -PAH secondary to congenital heart disease, chronic lung disease of prematurity and congenital diaphragmatic hernia being considered less fragile than primary PAH, (3) Procedure complexity -specific mention of airway procedure or intubation as intensive care unit (ICU) admission. Most guidelines recommend bypassing the postanesthetic care unit (PACU) when admitting to ICU for postanesthetic recovery. If PACU stay happens prior to ICU admission, a detailed sign off is emphasized. No institution specifically reported to have a “blanket policy” for admission of every patient with PAH, although 2 institutions report that almost all of their patients with PAH stay in house postanesthetic, with most of them admitted to the ICU.

Conclusions:  
As the medical management of pediatric PAH continues to improve, the perianesthetic care of these patients must evolve with it. Even in this high risk patient group, an indiscriminative overly conservative approach for every patient with this diagnosis is unlikely to be in their best interest. The national trend in current practices gathered from the survey seems to reflect this evolution of care. As this paradigm shifts, evidence-based guidelines are needed to guide these children’s perianesthetic care.