Anesthetic concerns for a four year old child with Ebstein’s anomaly and Pectus Excavatum scheduled for bilateral myringotomy surgery

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INTRODUCTION:
- Ebstein’s anomaly (EA) was first described by Wilhelm Ebstein in 1866.
- It occurs in approximately 1 in every 200,000 live births and has and represents less than 1% of all cardiac malformations.
- EA involves malformation of the tricuspid valve, causing tricuspid regurgitation.
- EA has many associated intra-cardiac and electrophysiological abnormalities which can significantly impact morbidity and mortality of a patient undergoing general anesthesia.
- Pectus Excavatum (PE) is the most common anterior chest wall abnormality and can significantly impact cardio-respiratory function.
- We present a case report of a 4 year old scheduled for bilateral myringotomy surgery with a history of EA and PE.

CASE DESCRIPTION:
- Four year old child presented for bilateral myringotomy surgery.
- The child was a 20 kg male, born at 32 weeks gestation.
- Mother reported a history of an open repaired congenital diaphragmatic hernia.
- On clinical examination there was an obvious chest wall deformity consistent with pectus excavatum.
- Vitals were within normal limits for his age and BMI 17.1.
- On clinical history the mother reported increasing symptoms and recurrent respiratory infections. Patients with PE can have decreased lung compliance and increased peak pressures. Studies have demonstrated that cardiac compression occurs in majority of patients with PE and this can increase right ventricular pressures worsening the tricuspid regurgitation in EA patients.
- Patient’s with EA have tricuspid regurgitation, jugular venous distention is rare as the extra volume is engulfed by the enlarged atrium. In majority of patients with PE and this can increase right ventricular pressures worsening the tricuspid regurgitation in EA patients.

CONCLUSIONS:
- Unanticipated patient compromise is a major cause of morbidity and mortality in anesthesia. It’s therefore imperative that a thorough pre-operative evaluation be carried out and the patient is optimized medically before proceeding with elective surgery.
- Important anesthetic considerations in a patient with EA include worsening existing shunts aggravating cyanosis; increased risk of paradoxical emboli and; increased risk of tachyarrhythmias and sudden cardiac death.
- Important anesthetic considerations for PE are cardio-respiratory compromise and decreased lung compliance with potential for increasing right ventricular pressures.

REFERENCES:
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