Bacterial Pericarditis with Tamponade: An Unsuspected Diagnosis in a Patient Scheduled for Appendectomy

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Treatment:
Pericardial drainage, and antibiotics. Intrapерicardial fibrinolytics and pericardiectomy may be indicated.

Conclusion
Given difficulty in eliciting symptoms from children, this rare diagnosis should be kept in mind in the child with a presumed acute abdomen. Prompt diagnosis and treatment could be life-saving.

References:

Clinical findings:
- Fever, chills, tachycardia, hepatomegaly, decreased cardiac sounds.
- Pericardial friction rub, chest pain, and pulsus paradoxus are rare
- EKG: decreased voltage; ST elevation; May be normal
- CXR: Enlarged cardiac silhouette
- Echo: pericardial fluid

FIGURE 1. 2-D echocardiographic parasternal long axis view of the heart reveals a large circumferential pericardial effusion with right atrial indentation and early right ventricular diastolic collapse consistent with early cardiac tamponade physiology. Parikh et al. 2008

CASE
PREOPERATIVE BACKGROUND
- 31-month old otherwise healthy male with fever and abdominal pain.
- On admission: febrile, mildly dehydrated, elevated WBC count.
- Abdominal ultrasound: some fluid in the pelvis near the appendix, but otherwise normal.
- CXR: Initially read as having an enlarged cardiac silhouette, but 'corrected' as being within normal limits for age.
- Initially admitted to the floor for monitoring, but developed worsening leukocytosis (WBC 55,000), and tachycardia (HR 190s to 200s).
- Concern for a ruptured appendix.
- Scheduled for urgent appendectomy, possible exploratory laparotomy.

IN OPERATING ROOM
- Resistant to lying supine: separation anxiety
- EKG tracings with low voltage throughout: EKG size adjusted to look 'normal'.
- RSI, smooth intubation.
- Squeaking noise on auscultation: leak around the endotracheal tube.
- End-tidal CO₂ initially low (19mmHg): resident started to ventilate more slowly, but was reminded of possibility of low cardiac output.

INTRAOPERATIVE EVENTS
- Normal appendix and enlarged liver (not seen on earlier ultrasound).
- Saturating in 80s. Tachycardic. Worsening hypotension.
- Clear breath sounds bilaterally
- "Squeaking" noise identified as a pericardial friction rub.
- EMERGENT ECHO: pericardial tamponade with collapse of the RV free wall.
- Urgent, ultrasound-guided pericardial drainage performed. 240 ml of purulent fluid drained, with improvement of vital signs.
- Abdominal incision closed. Emergence and extubation uneventful.
- Monitored overnight in the Pediatric Cardiac ICU.

Pericardial fluid grew Neisseria meningitidis

INOPERATING ROOM
- Sitting up in stroller, accompanied by mother
- Uncooperative with any examination, screaming continuously when chest was auscultated. Heart tones difficult to assess. No rales or wheezing heard.
- EKG:
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