

Controversies in Pediatric Cardiology

14 yr old girl with endocarditis. 2 weeks history of vomiting, head ach and fatigue. Some fever. Normal heart. Mitral valve vegetation (21 mm x 10 mm) is large and mobile at the atrial side of mitral valve. Ventricular side of the valve also seems to have one or two small lesions - in between chordae. MRI of head showed multiple emboli. Blood culture positive (4 samples) for Strep. sp. (difficult to identify which sp.). Antibiotic therapy started. Upon discussion with the surgeon, he thinks, he will only do valve replacement. Chances of salvaging the valve are small because the atrial side vegetation appears adherent to the leaflet towards the free edge. We want to salvage the valve if possible. Surgeon agrees, perhaps if we operate after some days/weeks of antibiotic therapy, the mass may solidify and there are chances of removing the vegetation and salvaging the valve than today. So, antibiotic therapy was started. Repeat MRI Head showed no new emboli after 5-6 days. So, we continued with medical management. Slow response to antibiotics with continued low-grade fever for 5-6 days. But, finally, the fever subsided in the second week. Transthoracic echo in the 3rd week showed reduction in size of the vegetation (atrial side) to nearly half-the-size from the beginning. So, the patient is going to HealthBridge to complete antibiotic therapy. Can't go home because the antibiotics are going 4 hrly (Pen G) and needs to be prepared each time and can be in solution for more than a few hours, etc. She will come each week to have echocardiogram. And, another TEE will be performed 2 days before the planned completion of 4 week course. (ID is going back and forth between 4 and 6 weeks. Finally, 4 weeks seems to have stuck). I think, it may be too short. Suggested to Dr. Brown to talk to them during the next 2 weeks and try to extend the duration of therapy either IV or PO for 2 more weeks. Plus, if we end up sending her for surgery, the antibiotic therapy should be continued 7-14 days beyond surgery. If the course had completed before surgery, the antibiotics should be restarted and given for that period of time.

7-mo old child from Honduras via Gift of life program. Small primum ASD. VSD component closed spontaneously by aneurysmal tissue formation. Cleft mitral valve without MR. No TR. Should we operate on this child because the child is here?

4-mo old child referred for second opinion from an outside cardiologist. Sub AS with peak pressure gradient of 82 and mean of 54 mmHg. No LVH on echo or EKG. No T wave changes in EKG, though the R wave is prominent. There is mild-plus AR. Aortic annulus is 9-10 mm (Z-score -3.5). SubAS membrane is closely adherent to undersurface of aortic valve and mitral valve. Pulmonary valve annulus is 15-16 mm. Central AR jet. Should we operate on this child now? If so, what surgery? Consensus was to operate due to "high" pressure gradient and AR. Some discussions about Ross procedure. I was alone in resisting surgery at this time. However, we wanted to look at previous echo to assess whether this AR has progressed (Not available).

48 yr old lady with Down's syndrome, Transitional type AVSD (no ventricular shunt), atrial & ventricular arrhythmias and "florid" heart failure. Cath: Baseline Qp/Qs 2.88 (PVR 1.4 WU.m2) PA 60/14 (32). LV 88/18. In 100% oxygen, Qp/Qs 5.0 (PVR 0.9 WU.m2); PA 63/13 (30), LV 98/18, LVEDP increased to 28 after angiogram. Should we operate on this lady? Medically, we can - except for the concern that LV dysfunction is significant. But, ethically we are not sure. Based on the State Guardian, the patient should undergo all possible treatments without consideration for the cognitive level of the patient - meaning this patient should get the same level of treatment just as any one with the normal cognitive abilities.

I believe the last statement from the State Guardian is arguable. Medicine has moved on from the days when it was prescriptive to the current state of significant involvement of patients in medical decisions. This type of patient involvement has helped us to sort through the maze of technology that can potentially keep anyone alive. It is the humane judgement on the physician's part and patient's own wishes & requests that put a reasonable perspective on how far to go! So, patient's cognitive abilities should play a significant role here. In this situation, there were two parts mentioned above in creating a perspective on application of medical technology...physician's humane judgement and patient's own wishes. With the patient's low cognitive abilities effectively eliminates one of half of this equation. Physicians are on their own in sorting this out.

Example: This same patient refused to allow me take the dressing off of the access site after cardiac cath. She has refused examination by the night nurse also. When I finally persuaded her, she had a hematoma in the pubic region. The blood had seeped under the pressure dressing and collected outside of the dressing area! Similarly, she refused to have IV replacement, but she is on Milrinone. For her, this is one another happening in her daily life such as drinking coffee or having breakfast. (When the anesthesiologist came to take her for cardiac cath, she refused to come on the stretcher saying "I don't want it". God knows what she thought that she was refusing. That anesthesiologist is arguing that we should not correct her cardiac defect based on the fact that she was refusing even a cardiac cath. I think, her refusals can not be taken as a representation of any understanding of where all of the daily events fit in the big pictures of management of her condition.) She told me that she would like the cardiac cath because we are taking pictures of the heart. "I like pictures"

Her understanding of the daily events is no more than a 5 yr old. The analogy is that the 5 yr old thinks that he or she is responsible for the grandma's death the other day since she refused to take a bath from grandma that day!

Difficult decisions? This being the situation, I am not sure we should do all of what is being proposed - close the ASD, Tricuspid annuloplasty, repair mitral valve cleft (which is not leaking very much), do maze procedure for both atria and postoperatively decide about a transvenous pacemaker for sick sinus syndrome, anti-tachycardia and ?dual chamber pacing for heart failure! There is a risk of heart block as well, here.
