Techniques to aid pulmonary valve preservation during repair of tetralogy of Fallot

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In the article titled “Pulmonary Valve-Sparing Techniques During Repair of Tetralogy of Fallot: The Delamination Plasty,” Dr Vida and colleagues¹ present additional techniques that can be used to preserve pulmonary valve during repair of tetralogy of Fallot. Our group at Boston Children's Hospital was an early adopter of balloon valvuloplasty in the operating room for the treatment of pulmonary valvar stenosis.² This technique is used for performing open valvuloplasty in a controlled fashion after performing precise commissurotomy incisions. We have learned that the radial forces exerted by the balloon have the ability to “stretch and remodel” the annulus in the areas where the commissurotomy incision extends into the hypoplastic pulmonary annulus. However, in patients with significantly hypoplastic pulmonary valve annuli (z score <-3), there is still residual stenosis at the valvar level. This technique by Vida and colleagues¹ shows aggressive ways of relieving stenosis and ensuring competence of pulmonary valve in these patients. The combination of extending the commissurotomy incision into the right ventricular muscle and delamination of the leaflets at the hinge points seems to help improve the orifice size and valvar motion. The key component of ensuring valve competence, as the authors point out, is the resuspension of the valve leaflets after these maneuvers. Additional stenoses in the subvalvar and supra-valvar regions need to be alleviated at the same time. It would be

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Central Message

This article reviews various techniques that can be used to preserve pulmonary valve function during repair of tetralogy of Fallot.

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informative to see how these valves function in the intermediate and long-term and to see if there is “growth” of valvar tissue to ensure competence. Regardless, this is another technique to add to our armamentarium to help improve the reparability and preservation of pulmonary valves in tetralogy of Fallot.

References

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