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Case Report

Case Report: Successful Closure of Aoto-Atrial Fistula Between the Descending Aorta and Right Atrium in Symptomatic 3-Month-Old Infant

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Abstract:
A 3-month-old infant presented to our clinic with heart failure secondary to an abnormal communication between the descending aorta and the right atrium. The anomaly was successfully closed via cardiac catheterization using an ADO II AS 5/6 AGA Occluder. Subsequent follow-up revealed relief of symptomatology.

Introduction:

Aorta-Atrial Fistula (AAF) is an abnormal communication between the descending aorta and the cardiac chambers is rare, but can lead to significant especially cardiac complications, in infancy. Immediate identification and management are crucial for better outcomes. Left untreated, this defect can cause significant heart failure, leading to compromised hemodynamics and clinical deterioration.

Clinical Presentation:

A 3-month-old male infant was brought to our clinic with signs of heart failure including tachypnea, poor feeding, and increased work of breathing. The infant's medical history was otherwise unremarkable. Physical examination demonstrated tachycardia, a prominent precordial impulse, and a continuous murmur best heard over the left lower sternal border.

Diagnostic Work-up:

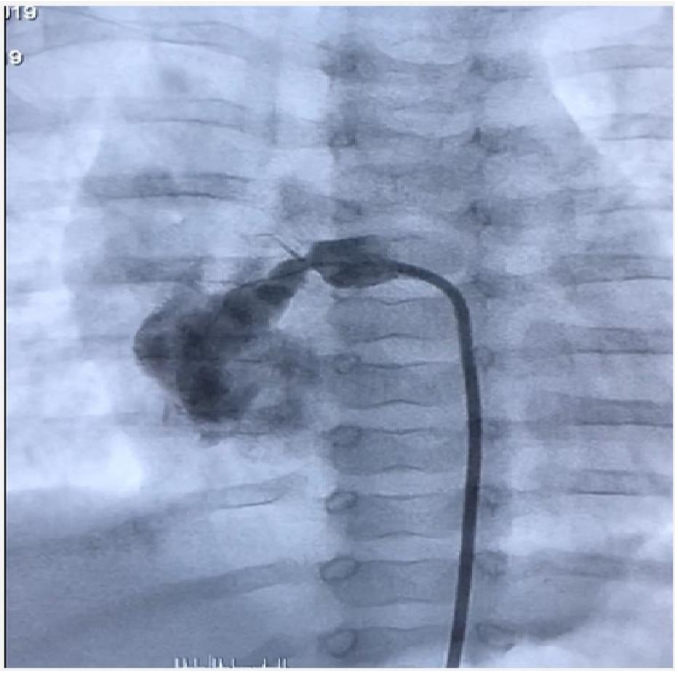
An echocardiogram was performed, which revealed a sizable communication between the descending aorta and the right atrium. Doppler studies confirmed a significant left-to-right shunt. No other intracardiac anomalies were detected.

Intervention:

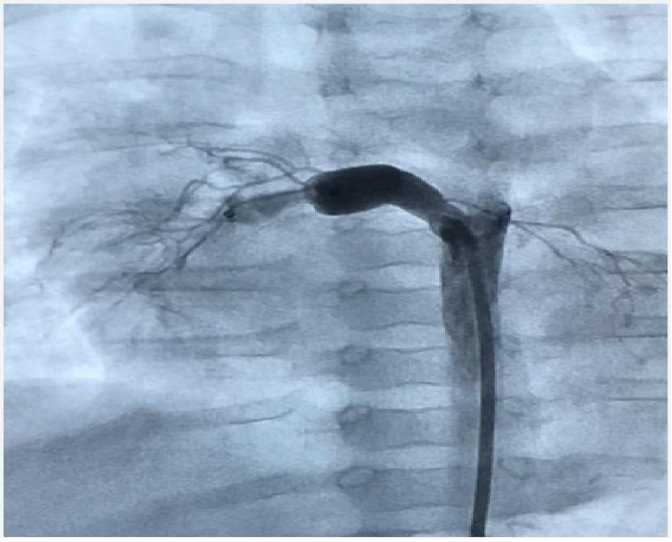
Considering the infant's age, size, and hemodynamic instability, a decision was made to proceed with transcatheter closure of the defect. Under fluoroscopic guidance, a cardiac catheterization was performed, and the defect was successfully occluded using an ADO II AS 5/6 AGA Occlude

Follow-up:

Post-procedure, the infant was monitored in the pediatric cardiac intensive care unit for 48 hours. The post-procedure showed complete echocardiogram closure of the communication with no residual shunt. The patient was discharged in stable condition on the fourth post-operative day.



Selective injection in the fistula between the descending aorta and the right atrium



aortic angiography showing the proper position of the ADO II AS 5/6 occluder inside the Fistula with complete closure

Discussion

Abnormal communication between the descending aorta and the right atrium can cause volume overload of the right heart, leading to heart failure. Early diagnosis and timely intervention are critical for optimal outcomes.

Studies have shown that endocarditis is the most commun cause of Aorta-atrial fistulas. Congenital cause represents only

11.8 % of all the AAF (4).

Transcatheter closure using the ADO II AS 5/ 6 AGA Occluder offers a minimally invasive approach, avoiding the need for open-heart surgery. This method has been shown to be effective and safe for selected congenital heart defects, and our experience reinforces its utility in infants.

Conclusion:

This case highlights the successful management of a rare congenitalheart defect in a 3-month-old infant using transcatheter closure with an ADO II AS 5/6 AGA Occluder. Early detection, appropriate intervention, and close follow-up are key components to achieving favorable outcomes in such patients.

Ressources and References:

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