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Open Access Case Report

Crescent Journal of Medical and Biological Sciences
Vol. 3, No. 1, January 2016, 33–34
eISSN 2148-9696

Cardiac Fibroma in a Neonate Presenting With Dyspnea and Tachycardia: A Very Rare Case

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Abstract

Introduction: Cardiac tumors can be divided to primary and secondary and to benign and malignant tumors. One of the benign tumors of the heart is cardiac fibroma. More than 80% of this tumor occurs in children; however its occurrence in neonates is very rare. Fewer than 100 cases have been reported.

Case Presentation: Our patient is a 10 day's girl neonate with severe dyspnea, mild cyanosis, tachycardia (heart rate = 170-180/min) and obstruction of right ventricle (RV) outlet with very large tumor.

Conclusion: Cardiac tumors in neonate population must be considered in the diagnosis of arrhythmias, cardiac insufficiency, valvular disease, cardiomegaly or presence of murmurs. Early diagnosis before birth should be appropriate and accurate imaging devices must be used in detecting these tumors.

Keywords: Dyspnea, Fibroma, Neoplasms, Newborn, Tachycardia.

Introduction

Cardiac fibroma is very rare disease. Fewer than 100 cases have been reported until now. Presentation in neonates is very rare. Less than 20 cases have been reported in neonatal period. Clinical manifestations are often due to obstructive effect of tumor including dyspnea, arrhythmia, etc. Our patient is a 10 day's girl neonate with severe dyspnea, mild cyanosis, tachycardia (heart rate = 170-180/min) and obstruction of right ventricle (RV) outlet with very large tumor.

Case Presentation

The case was a 10 day's old girl neonate with history of severs dyspnea and tachycardia. On physical examination only tachycardia with fine systolic murmur was detected. Cardiomegaly was seen on chest x-ray. Two dimensional echo revealed a large mass in pericardium that caused pressure effect on RV and caused mild RV obstruction. Severe tricuspid regurgitation (TR) was also seen on echo. Computed tomography (CT)-angiography showed pericardial tumor with compressive effect on RV. In operating room a firm and very large tumor (5-6 cm) originating from interventricular septum with sever adhesion to pulmonary and tricuspid valves was seen. This tumor protruded through RV free wall and had loose adhesion to pericardium. Operation was successful. Tumor was completely resected from interventricular septum and pulmonary and tricuspid valves. Two-thirds of RV free wall was resected. At the end of operation patient had good condition. Patient was discharged from hospital 10 days later. After 1.5 years of discharging from hospital, the patient was followed up. This follow up showed no sign of recurrence. Pathologic examination revealed cardiac fibroma (Figure 1A-D).

Discussion

Cardiac fibroma usually occurs in ventricle (1). This tumor is often solitary. Fibromas are encapsulated, gray

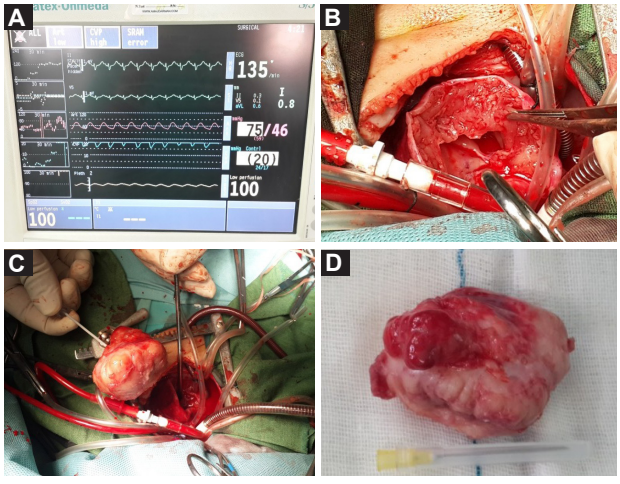

Figure 1. (A) During operation vital signs of patient were stable. (B) Tumor size in comparison with heart size and operation field. (C) Right ventricular after fall resection of tumor. (D) Big tumor in comparison with N:20 syringe needle.

Received 19 July 2015, **Revised** 12 November 2015, **Accepted** 14 December 2015, **Available online** 1 January 2016

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white and firm and may be associated with calcium deposits or bone particle (2). These tumors may be seen on chest x-ray (3). Symptoms are often caused by chamber obstruction including dyspnea, arrhythmia and rarely sudden death (fewer than 25% of cases) due to conduction disturbance (4,5).

Conclusion

Cardiac tumors in neonate population must be considered in the diagnosis of arrhythmias, cardiac insufficiency, valvular disease, cardiomegaly or presence of murmurs. Early diagnosis before birth should be appropriate and accurate imaging devices must be used in detecting these tumors. The role of cardiac remodeling and pharmacological intervention to alter this process may have future implications especially to heal damaged myocardial tissues secondary to large size of tumors or surgery. Surgical consideration should be individualized. An early and safe management approach for symptomatic patients must not only aim at resection of the entire tumor mass with sufficient margin but more importantly restore best possible hemodynamics with a careful follow up.

Ethical issues

Written informed consent was obtained from the patient's parents for publication of this case report and any accompanying images. Also, the local ethics committee approved the study.

Conflict of interests

The authors declare no conflict of interests.

Financial support

Not applicable.

Acknowledgments

We would like to thank the parents of the patient and all of our colleagues who helped us in this study.

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