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PERMANENT JUNCTIONAL RECIPROCATING TACHYCARDIA IN NEWBORN – CASE REPORT

Paediatrics

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ABSTRACT

Permanent junctional reciprocating tachycardia(PJRT) also known as persistant junctional tachycardia is a rare type of supraventricular tachycardia (SVT) seen in neonates. This subtype of AV reciprocating tachycardia(ANRT) often goes misdiagnosed and if left untreated can lead to cardiomyopathy and cardiac failure. Due to the fact that PJRT is often resistant to the effects of medications and electrical cardioversion, catheter ablation procedures could be examined as a potential alternative method of treating the illness. When it comes to the medical treatment of PJRT, the medications that are utilised the most frequently are digoxin, amiodarone, flecainide, and β-blockers. However, it is important to keep in mind that the use of these medications may result in the appearance of undesirable effects that are not commonly seen.

Here we present the findings and management of a new born, 2.5 kg, female baby, diagnosed with tachycardia in-utero. On further evaluation, a diagnosis of PJRT was made. This child settled with medications, and didn't require urgent ablation.

KEYWORDS

supraventricular tachycardia, permanent junctional reciprocating tachycardia, catheter ablation

INTRODUCTION

Permanent junctional reciprocating tachycardia (PJRT), which was initially characterised by Coumel et al. in 1967, is a kind of re-entrant supraventricular tachycardia (SVT) that occurs frequently(1). PJRT is most commonly seen in infants and children, and it can induce tachycardia that is continuous and occurs at a pace that ranges from 120 to 250 contractions per minute. Electrocardiograms (ECG) have been shown to exhibit inverted P waves in inferior leads II and III, as well as in the augmented vector foot (AVF)(2). There is a possibility that the persistent tachycardia will result in congestive heart failure and tachycardia-induced cardiomyopathy if it is not properly treated. (3, 4). Heart failure and hydrops fetalis are two potential outcomes that could result from tachycardia, which can occur occasionally throughout the foetal period. (5). PJRT is typically resistant to the effects of medicines and electrical cardioversion; hence, catheter ablation operations could be investigated as an alternative way to treat the condition. Digoxin, amiodarone, flecainide, and β-blockers are the drugs that are utilised the most frequently in the medical treatment of PJRT. Nevertheless, it is worth noting that the utilisation of these medications can result in the occurrence of uncommon adverse effects. (2,3, 4, 6, and 7) When there is no major clinical compromise, it is suggested that foetuses with SVT be delivered at term in order to avoid the problems that can arise from giving birth prematurely. (8). The administration of transplacental therapy with digoxin, sotalol, or flecainide should be commenced in order to prevent heart failure in the case that PJRT is discovered during the foetal stage. (5).

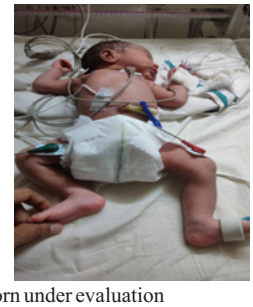


Figure 1 : Newborn under evaluation

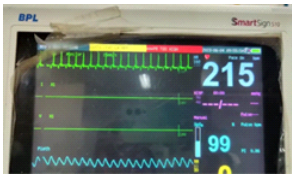


Figure 2 : Multipara monitor showing ECG,SpO2,HR of baby

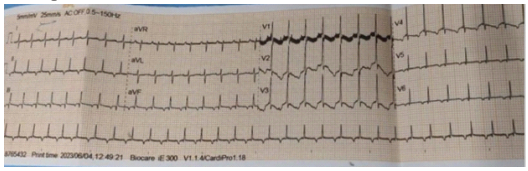
CASE STUDY

This is the case of a term female baby weighing 2.5 kg at birth, and was delivered by emergency lower segment caesarean section (Indication-fetal distress). The baby was observed to have persistent foetal tachycardia, an average of 220 bpm. Mother did not have any co morbidities and she was on routine antenatal medications. Following the delivery, the baby cried immediately. Amniotic fluid was clear. Heart rate > 200bpm recorded. Difficulty in clearing lung secretions noted. Due to the persistent tachycardia and impending respiratory distress anticipated, the child was immediately shifted to NICU.

Once stabilized and warmed, the baby was examined. Baby was haemodynamically stable, with no syndromic features, altered sensorium or chest in drawing. Pre and post ductal oxygen saturation was normal ECG was performed in view of the persistent tachycardia, which showed a regular narrow QRS complexes wave with preceding p wave, along with an abnormal morphology, which was suggestive of Supraventricular tachycardia.

Injection Adenosine rapid bolus was infused at 50mcg/kg initially then 100mcg/kg. We observed a brief response drop to 160 bpm, followed by returning to the pre infusion rate. However, there was no unmasking of flutter waves. Again 150 mcg/kg adenosine was given but the tachycardia remained. Hence, amiodarone infusion 5mg/kg started. Despite the maximal dose of 15 mg/kg the tachycardia persisted.

Hence, cardioversion 0.5j/kg was attempted, and increased sequentially to 2j/kg but the status remained the same. ECHO was performed, which was observed to be normal. Child was continued on the same medical treatment for 24 hours, then IV digitalization was tried for 24 hours which resulted the heart rate gradually reduced to 130-150 bpm.



CONCLUSION

Even though PJRT is common in infants most often it goes undetected in newborns. Here we presented this case to bring attention on to the early diagnosis and medical treatment of this variant of SVT so that the complications can be minimized.

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