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Permanent Junctional Tachycardia by Reciprocal Rhythm (PJRT)

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Abstract | **Case Report**

Permanent reciprocal junctional tachycardia is a rare arrhythmia, it can be diagnosed at any age, but in the majority of cases during early childhood and the prenatal period. However, these treated children have a favorable evolution with a regression of cardiomyopathy and a frequent disappearance of seizures in adolescence. We report in this case the discovery of a PJRT in an infant hospitalized in pediatric intensive care, initially diagnosed as an atrial flutter.

Keywords: Tachycardia, junctional, rhythm, reciprocal, arrhythmia.

INTRODUCTION

Permanent junctional reciprocal tachycardia is a rare arrhythmia characterized by incessant orthodromic tachycardia.

Mainly affects children and adolescents.

Most often subclinical, it can lead to chronic tachycardia and be a source of cardiomyopathy.

CASE REPORT

42-day-old infant, male, From a marriage between relatives (1st cousins), Vaccinated according to PNI.

Reason for Hospitalization

- Circumoral cyanosis and fatigability during feedings since birth.
- Clinical examination: Conscious infant, pink, reactive, gesticulates spontaneously.
- Tachycardia at 208 bpm, polypneia at 39 bpm, chest indrawing.
- Normotensive, afebrile.
- No signs of peripheral hypoperfusion.
- No murmur on cardiovascular examination.

Paraclinical Examinations

- **Chest X-ray:** Chest distention with horizontalization of the ribs, widening of the intercostal spaces and cardiomegaly.
- **ETT:** without abnormalities with a neonatal flutter appearance.
- **ECG:** sinus tachycardia.

Treatment

- Cordarone loading dose then maintenance IV, then orally 5mg/kg/d after stabilization of the heart rate.
- Flecainide 5mg/kg/d.
- Cardensial 0.1mg/kg/d.
- Adenosine test positive.
- Vagal maneuvers allowed the heart rhythm to return to normal.

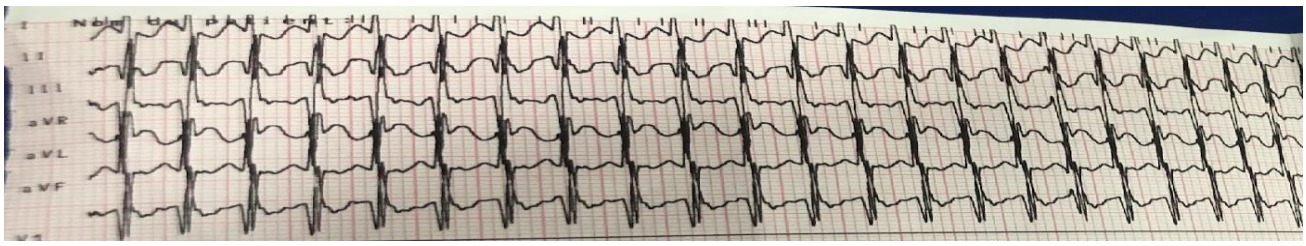

Figure 1: ECG with a tachycardia at 165 bpm with narrow QRS and Delta wave

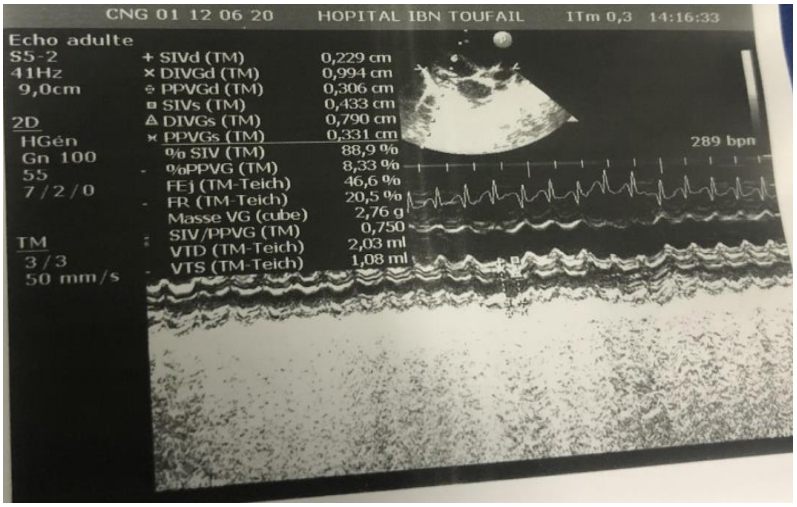

Figure 2: ETT without abnormalities with rhythm at 289 bpm

DISCUSSION

PJRT is a rare form of supraventricular tachycardia characterized by antegrade conduction above the atrioventricular node and retrograde conduction through a slow, decremental accessory pathway [1].

Clinically, it can be diagnosed at any age, but in the majority of cases during early childhood and the prenatal period. Symptoms of congestive heart failure are most common among young patients before the introduction of medical treatment [2].

The ECG most often finds a regular, incessant tachycardia, with fine QRS and a long (>> 70ms) and variable PR' interval (progressive lengthening of the PR'). The P' wave is negative and deep in the inferior and lateral leads with an atrioventricular ratio of 1:1. The ETT is in the majority of cases without abnormalities, except if associated pathology [3].

Arrhythmia is generally considered refractory to antiarrhythmic drug therapy and vagal maneuvers have been used to prevent tachycardia. In recent years, radiofrequency catheter ablation of the accessory pathway has been reported to be highly effective and safe as a definitive treatment for PJRT [4, 5].

CONCLUSION

PJRT is a life-threatening arrhythmia in children with cardiomyopathy secondary to chronic tachycardia. Antiarrhythmic treatment is often effective. Ablation of the accessory pathway by radiofrequency is an increasingly used alternative. Spontaneous resolution of tachycardia is not uncommon.

DECLARATIONS

Conflicts of Interest

The authors have declared no potential conflict of interest with respect to the research, writing and/or publication of this article.

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Author Contributions

All authors have contributed to this work from the conception, reading and approval of the final version of the manuscript.

REFERENCES

1. Vaksmann, G., D'Hoinne, C., Lucet, V., Guillaumont, S., Lupoglazoff, J. M., Chantepie, A., ... & Marçon, F. (2006). Permanent junctional reciprocating tachycardia in children: a multicentre study on clinical profile and outcome. *Heart*, *92*(1), 101-104.
2. Lindinger, A., Heiselt, A., Von Bernuth, G., Paul, T., Ulmer, H., Kienast, W., ... & Hoffmann, W. (1998). Permanent junctional re-entry tachycardia: a multicentre long-term follow-up study in infants, children and young adults. *European heart journal*, *19*(6), 936-942.
3. Critelli, G., Gallagher, J. J., Monda, V., Coltorti, F., Scherillo, M., & Rossi, L. (1984). Anatomic and electrophysiologic substrate of the permanent form of junctional reciprocating tachycardia. *Journal of the American College of Cardiology*, *4*(3), 601-610.
4. Weindling, S. N., Saul, J. P., & Walsh, E. P. (1996). Efficacy and risks of medical therapy for supraventricular tachycardia in neonates and infants. *American heart journal*, *131*(1), 66-72.
5. Van Hare, G. F., Witherell, C. L., & Lesh, M. D. (1994). Follow-up of radiofrequency catheter ablation in children: results in 100 consecutive patients. *Journal of the American College of Cardiology*, *23*(7), 1651-1659.