

IMAGES IN CARDIOLOGY

A rhythm by two players: ECG tracing found in conjoined twins[☆]

O electrocardiograma em gémeos xifópagos ou ‘siameses’: um ritmo a dois tempos

Antonio J. Cartón^{a,*}, Felipe Gómez^a, Luis García-Guereta^a, Leopoldo Martínez^b, Juan A Tovar^b, Federico Gutiérrez-Larraya^a

^a Department of Pediatric Cardiology, Hospital Universitario La Paz, Madrid, Spain

^b Department of Pediatric Surgery, Hospital Universitario La Paz, Madrid, Spain

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Case report

A 12-lead ECG was obtained soon after the birth of a pair of omphalo-thoracopagus (Figure 1) conjoined twins. Before birth, they had been diagnosed with two separate hearts that shared a wide communication through the independently defined right atria. Other anomalies including a common liver with two gallbladders and two stomachs with common jejunum and ileum beyond the duodenum were also noted on surgical exploration. It had been the parents' choice to follow the course of pregnancy and attempt surgical separation.

As seen in Figure 2, two different QRS complexes of nearly equal rate alternate in lead II, with no compensatory pause, as if two different ECG recordings had been superimposed. Each ventricle produces its own distinct depolarization wave, as expected in anatomically and electrically independent ventricles.

Surgical attempts to separate the two twins was unsuccessful, both infants dying in the operating room. Autopsy examination confirmed the shared right atria, with relative heart hypoplasia in one twin (Figure 3).



Figure 1 Omphalo-thoracopagus twins showing the shared thorax and abdomen.

[☆] Os autores declaram ter recebido consentimento escrito do progenitor/tutor dos pacientes mencionados neste artigo.

* Corresponding author.

E-mail address: antoniocarton@yahoo.com (A.J. Cartón).

Discussion

Conjoined twins are reported to appear in 0.70:100 000 births, thoracopagus being the most frequent type

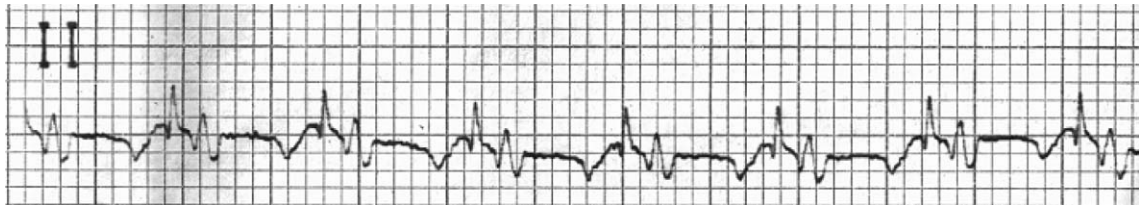


Figure 2 ECG tracing in lead II showing two different QRS complexes alternating at a rate of 176 bpm.



Figure 3 Autopsy examination of the conjoined heart, showing fusion of right atria, and relative hypoplasia of one twin's heart.

observed¹. Fusion of the heart in thoracopagus twins occurs in up to 75% of cases, with fusion of the liver being almost universal; the merging may include the pericardial sac, the atria, or the ventricles². Very few cases of conjoined twins that shared the atria have been reported to survive after separation³.

Conflicts of interest

The authors declare they have no conflicts of interest.

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