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

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

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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.

Discussion

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

☆ Authors have obtained the written informed consent from the tutor or legal representative of the patient mentioned in this article.

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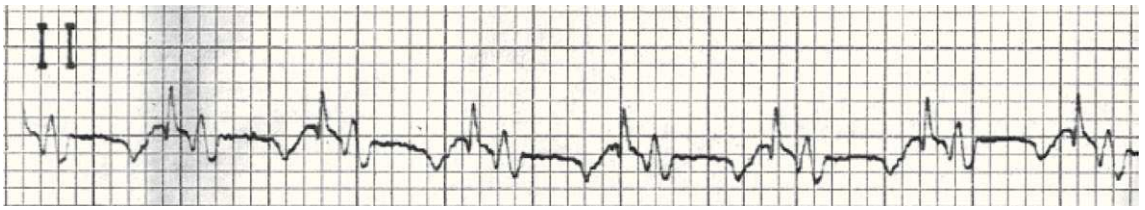

Figure 2 ECG tracing in lead II showing two different QRS complexes alternating at a rate of 176 bpm.

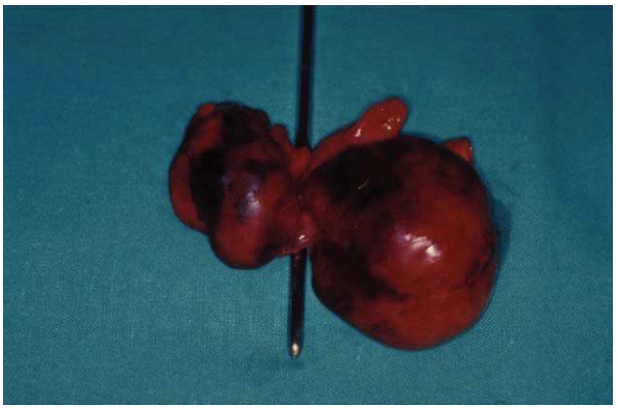

Figure 3 Autopsy examination of the conjoined heart, showing fusion of right atria, and relative hypoplasia of one twin's heart.

observed[1]. 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 ventricles[2]. Very few cases of conjoined twins that shared the atria have been reported to survive after separation[3].

Conflicts of interest

The authors have no conflicts of interest to declare.

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