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The use of M-mode and color-encoded M-mode echocardiography in the diagnosis of atrial flutter: From the fetal to postnatal life

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In fetal life, M-mode echocardiography (ECHO) is essential in the differentiation of types of fetal cardiac arrhythmias. However, clearly in postnatal life, the Electrocardiogram (ECG) is used most frequently. Under certain clinical circumstances, ECG tracings may not be diagnostic. Treatment algorithms would differ depending on the type of cardiac arrhythmia encountered. In our centre's experience, using the mechanical events demonstrated on high-frame rate M-mode ECHO as an additional diagnostic tool, the electrical events of the heart may be ascertained and atrial flutter can be differentiated from other forms of atrial tachyarrhythmia. We present four cases of atrial flutter from fetal life to adolescence, where M-mode ECHO was useful in confirming the diagnosis of atrial flutter. Color-Encoded M-mode was used in two cases. In a neonatal patient, we report the novel use of Color-Encoded M-mode with flow demonstrated across the patent oval foramen to confirm atrial events and flow across the right ventricular cavity confirming ventricular events, thus demonstrating atrial flutter with 2:1 atrioventricular block. All patients were successfully treated with synchronized cardioversion and were converted to sinus rhythm.

Biography

Xu Ming has completed her MBBS from Tianjin Medical University in 1986. She had been working as a Medical Officer before working in KK Women's and Children's Hospital. Currently, she is the Principal Cardiac Physiologist at the Cardiac Center being specialized in Fetal and Pediatric Echocardiography.

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