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超声速度向量成像三维数据成像技术观察心律失常胎儿心脏传导状态

Three dimensional data system of echocardiographic velocity vector imaging in observation on atrioventricular conduction in fetus with arrhythmia

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英文关键词: [Fetal heart](#) [Imaging,three-dimensional](#) [Velocity vector imaging](#) [Heart block](#)

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中文摘要:

目的 应用超声速度向量成像(VVI)三维数据成像技术评价胎儿不同类型心律失常中的房室传导模式.方法 收集经超声心动图检查确诊的心律失常胎儿60胎及正常胎儿40胎,行VVI,应用Siemens Syngo Workplace工作站分析三维数据成像.结果 VVI三维数据成像可清晰显示胎儿不同类型心律失常的房室传导形式.下传心房早搏提前出现的心房收缩后有心室收缩,后伴不完全代偿间期,未下传心房早搏在心房提前收缩后发生传导阻滞,其后无心室收缩;与窦性心律兴奋点比较,心房早搏位置轴发生改变.室内性心动过速伴不规则房室传导阻滞时,房室激动的速度轴降低,时间轴和位置轴无变化.心房颤动和心房扑动伴房室传导紊乱时心室律绝对不齐,房室激动的速度轴明显降低. II度房室传导阻滞时,房室呈2:1下传,完全性房室传导阻滞房室间运动无关联;房室激动的速度轴、时间轴和位置轴均无变化.结论 应用VVI三维数据成像可立体观察胎儿心脏传导状态.

英文摘要:

Objective To assess the atrioventricular conduction model in fetus with different type arrhythmias using three dimensional data system of echocardiographic velocity vector imaging (VVI). **Methods** Totally 60 arrhythmia fetuses confirmed by echocardiography and 40 normal fetuses underwent VVI, and three dimensional image were obtained and analyzed using Siemens Syngo Workplace. **Results** Atrioventricular conduction model in fetus with different type arrhythmias was visibly present in three dimensional VVI image. In conducted atrial premature beat, premature atrial contraction was followed by ventricular contraction with incomplete compensation interval. In non conducted atrial premature, there was no ventricular contraction after premature atrial contraction because of atrioventricular block. The position axis of atrial premature beat changed compared with sinus pacemaker. In supraventricular tachycardia with atrioventricular block, the velocity axis of atrioventricular excitation decreased, and the time and position axis had no changes. In atrial flutter and atrial fibrillation with atrioventricular conduction disorder, ventricular rate was absolutely irregular, and the velocity axis of atrioventricular excitation decreased significantly. Atrioventricular 2:1 transmission ratio was shown in II atrioventricular block, while there was no association of atrioventricular movement in complete atrioventricular block. In addition, the velocity, time and position axis atrioventricular excitation had no changes. **Conclusion** Three dimensional data acquisition system of VVI can be used to observe the atrioventricular conduction model of fetus with arrhythmia.

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