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DETERMINING THE OPTIMAL THERAPY FOR FETAL SUPRAVENTRICULAR TACHYCARDIA (SVT): A COMPARISON OF TWO DRUG TREATMENT PROTOCOLS

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Introduction The best treatment for sustained fetal SVT with 1:1 atrio ventricular relationship is not known. We compared two treatment protocols.

Methods 155 consecutive fetuses with supraventricular tachyarrhythmia presented 2000–2012. 127 had SVT with 1:1 atrioventricular conduction. 86 received drug treatment according to one of two protocols: first-line maternal intravenous digoxin (n=52, centre 2), or maternal oral flecainide (n=34, centre 1). Treatment success was defined as live birth after conversion to sinus rhythm, or rate reduction by >15%.

Results Short ventriculo-atrial (VA) interval occurred in 69 and long VA in 17. Age at treatment start was median 31 weeks gestation in each centre. Hydrops was present in 30/86 (35%). Digoxin was successful in 23/28 (82%) and flecainide in 26/27 (96%, p 0.19) of non-hydropic fetuses, compared to 8/21 (38%) and 6/7 (86%, p 0.07) respectively when hydrops was present. For short VA SVT, conversion to sinus rhythm and rate control was 31/44 (70%) and 0/44 for digoxin, and 23/25 (92%) and 1/25 (cumulative 96%, p 0.01) for flecainide. For long VA SVT, conversion to sinus rhythm and rate control was 4/8 (50%) and 0/8 for digoxin, and 5/9 (55%) and 2/9 (cumulative 78%, p 0.3) for flecainide. Second line drug treatment was added to digoxin in 19/52 (37%), and to flecainide in 2/34 (6%, p 0.002). Intrauterine or neonatal death occurred in 9/21 (43%, including 1 termination) hydropic fetuses treated with digoxin compared to 0/9 (p 0.03) of those treated with flecainide.

Conclusions Flecainide was more effective than digoxin in short VA SVT, especially when hydrops was present. Additional treatment was used more often in the digoxin protocol. No adverse fetal outcomes were attributed to flecainide.