Is amiodarone a safe and effective alternative drug in persistent fetal tachycardia?

Regional Hospital Center of Lille, Department of Congenital Heart Disease, Lille, France (1)
Cabinet Vendôme, Congenital Heart Disease, Lille, France (2)
Lens Hospital, Department of Paediatrics, Lens, France (3)

Background – Persistent fetal tachycardias, especially when complicated with hydrops, are associated with a poor prognosis. If digoxin and flecain are the usual first–line treatment but with inconstant results, amiodarone remains a last choice treatment because of its known complications.

Aims – In this retrospective study, we reviewed the use of amiodarone in patients with resistant fetal tachycardia, to determine the safety of this drug and its efficiency.

Methods - Between 1986 and 2012, 16 pregnancies admitted for fetal tachycardia were treated with amiodarone. 4 had atrial flutter and 12 had supra-ventricular tachycardia. The presentation was severe: 10 fetuses (63%) had hydrops and 2 (12.5%) had an isolated pericardial effusion. Amiodarone was never used as a first line therapy, but as a second line therapy in 6 fetuses and as a third line therapy in 6 fetuses.

Results - Amiodarone was given during 28.2 ± 15.3 days and was effective in 10 of the 16 (63%) patients (defined as resolution to sinus rhythm or slowing the tachycardia under 190 bpm), and despite the presence of hydrops (efficiency was obtained in 4/6 fetuses of the non hydropic group versus 6/10 of the hydrops group, p=NS). Among mothers, 2 complications were noticed: mild hypothyroidism and hepatic cytolysis. Hypothyroidism was present in 3 patients who did not require any substitutive treatment. Hepatic cytolysis was also present in 3 patients but never above 3 times normal level: therefore, none of them required amiodarone interruption. Fetuses were born at 35.8 ± 3.2 WA, weighed 2805 ± 579g, and 5 of them required oral intubation at birth. One fetal death occurred (sinusal rhythm was obtained but hydrops with ventricular dysfunction persisted and a ventricular thrombus appeared). Hypothyroidism was present in 6 patients (including one goiter): 3 had transient hypothyroidism that resolved in 2 weeks, 2 were treated for 6 months and one is still treated. All children had normal neurological development.

Conclusion – Persistant tachycardias complicated with hydrops remain a medical challenge. Amiodarone seems to be a safe and efficient alternative drug in this indication.