

Outcome with Routine vs Random Transplacental Anti-inflammatory Treatment for Anti-Ro Antibody-Mediated Fetal Heart Disease

Mawad W. (1), Hornberger L.K. (2), Parkman J.(2), Diab K. (3), Cuneo B. (4), Moon-Grady A (5), Silverman E. (1), Jaeggi E. (1)

The Hospital for Sick Children, Toronto, Canada (1); Stollery Children's Hospital, Edmonton, Canada (2); Rush University Medical Center, Chicago, USA (3); Children's Hospital Colorado, Colorado, USA (4); Benioff Children's Hospital, San Francisco, USA (5)

Background. Cardiac manifestations of neonatal lupus (NLE), including heart block (AVB), endocardial fibroelastosis (EFE) and dilated cardiomyopathy (DCM,) are associated with significant mortality. Transplacental fetal treatment (TFT) with dexamethasone from the time of NLE diagnosis to birth, β -stimulation for bradycardia <50 beats/minute, and intravenous immune globulin (IVIG) for EFE has been routinely used at our institutions to improve outcomes. The optimal management including the use of dexamethasone is still debated.

Methods. We reviewed 95 consecutive fetuses with cardiac NLE that received TFT as per our institutional guidelines (1996-2016) and compared the findings with inconsistently treated TFT (Lopes 2008; Eliasson 2011; Levesque 2015).

Results: The table compares our ("current") with the predominantly untreated cohorts of the above studies. Neonatal (93% vs 84% and 77%) as well as long-term survival (89% vs 87%, 69% and 69%) were better in our series including cardiac, non-cardiac and unknown causes of death. The incidence of late onset DCM was also lower in our series (2% vs 19%, 7%).

Conclusions: In our cohort, we have found good fetal survival, and lower neonatal and long-term mortality as well as lower incidence of late-onset DCM compared to published series. These findings support routine treatment in this condition to alter neonatal and long-term outcomes.

	Current	Levesque (n=198)	Eliasson (n=175)	Lopes (n=57)
Anti-Ro antibody-mediated	95 (100%)	100%	140 (80%)	41 (72%)
Complete AVB	78%	100%	83%	75%
Other Diagnosis	22%	0%	17%	25%
Age at diagnosis (weeks)	23	23	24	30
Fetal hydrops	14%	11%	9%	11%
Endocardial fibroelastosis	36%	21%	-	5%
Prenatal therapy	95 (100%)	75 (39%)*	67 (38%)*	11 (19%)*
Fluorinated steroids	100%	39%	38%	11%
Duration (weeks)	11 (1-18)	8 (1-18)	10 (1-21)	-
Beta-mimetic	36%	-	23% †	16% †
IVIG	27%	2%*	0.6% *	0% *
Cases with known outcome	95	198	164	57
Fetal survival	93 (98%)	174 (93%)	149 (91%)	-
Neonatal survival	88 (93%)	-	138 (84%)†	44 (77%)†
10-year survival	85 (89%)	-	-	39 (69%)*
Late onset DCM	2%	19%*	7%†	5%

*p < 0.0001 compared to current; † p < 0.05 compared to current