

## Perinatal outcomes in anemic fetuses after intrauterine transfusion

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**Objective.** Intrauterine transfusion (IUT) is a procedure performed in fetal anemia derived from maternal alloimmunization, infections (parvovirus B19 and cytomegalovirus (CMV)), single demise of monochorionic (MC) twin or other causes. The aim of our study was to evaluate perinatal outcomes in all pregnancies which underwent IUT in our center.

**Materials and Methods.** Cases referred from 2009 to 2022 with a suspicion of fetal anemia based on Doppler ultrasound (US) of the middle cerebral artery peak systolic velocity (MCA-PSV) above 1.5 multiples of the median (MoM), underwent fetal blood sampling (FBS) to assess fetal hemoglobin values. A calculated amount of RH negative concentrated red blood cells (RBC) was transfused in the same site until fetal anemia was corrected. US monitoring 1 and 7 days after IUT, and, in

case of suspected brain lesion, fetal magnetic resonance (MR) were performed. Elective delivery was an option in case of persistent anemia after 34 weeks. Postnatal follow-up comprehensive of obstetrical and perinatal outcomes was collected.

**Results.** During the study period, 59 pregnancies complicated by fetal anemia underwent a total of 97 IUT (Table 1).

Termination of pregnancy followed two cases of surviving MC twins with brain damage demonstrated at MR, which, alongside with two cases of newborns with sequelae (1 from CMV, 1 after maternal alloimmunization) accounted for 7% of cases.

**Conclusions.** IUT is a safe procedure with low rate of obstetrical complications in expert hands and higher survival rates and better post-natal outcomes in immune anemic fetuses when compared to other conditions.

Table 1.

	Total (59)	Alloimmunization (21)	Infections (16)	Single demise MC Twins (10)	Other (12)	P
<b>GA IUT (wks)</b>	25.21+/-4.00	27.20+/-4.25	23.31+/-3.19	23.05+/-3.34	26.06+/-3.26	.001
<b>IUD &lt; 48 H</b>	4/59 (7%)	0/21 (0%)	2/16 (12%)	1/10 (10%)	1/12 (8%)	NS
<b>Miscarriage</b>	0/59 (0%)	0/21 (0%)	0/16 (0%)	0/10 (0%)	0/12 (0%)	NS
<b>TOP</b>	2/59 (3%)	0/21 (0%)	0/16 (0%)	2/10 (20%)	0/12 (0%)	NS
<b>pPROM</b>	0/59 (0%)	0/21 (0%)	0/16 (0%)	0/10 (0%)	0/12 (0%)	NS
<b>PD &lt; 32 wks</b>	18/59 (30%)	7/21 (33%)	2/16 (12%)	3/10 (30%)	6/12 (50%)	.001
<b>GA (wks)</b>	33.05+/- 4.89	31.97+/- 2.75	36.49+/- 4.84	32.92+/- 6.32	30.87+/- 5.06	.001
<b>Livebirth</b>	53/59 (90%)	21/21 (100%)	14/16 (87%)	7/10 (70%)	11/12 (92%)	.001
<b>NND</b>	5/59 (8%)	2/21 (9%)	0/16 (0%)	0/10 (0%)	3/12 (25%)	.001
<b>Birthweight (g)</b>	2227+/- 897	2038+/- 591	2492+/- 946	2409+/- 1374	2085+/- 848	NS
<b>NDI</b>	2/59 (3%)	1/21 (5%)	1/16 (6%)	0/10 (0%)	0/12 (0%)	NS