Comparison of premature and full-term cord blood units; median (range)

	Preterm (N=86)	Full Term (N=5,282)	p value*
Volume (mL)	21 (1-85)	93 (24-286)	<0.0001
TNCC (x10e8)	2.0 (0.1-25.2)	11.8 (2.9-55.5)	<0.0001
CD34+ (per uL)	45.0 (2.5-393.2)	35.7 (0.0-1045.0)	0.0167
% of CD45+ that are ALDH bright (N=76/5,271)	0.46 (0.07-3.29)	0.38 (0.00-3.63)	0.0039
CFU (x10e3 per ml) (N=82/5,279)	25 (3-176)	37 (0-173)	<0.0001
*Wilcoxon			

Analysis	Bayley-III cognitive composite score		Mean difference (95% CI) adjusted	Bayley-III language composite score		Mean difference (95% CI) adjusted	Bayley-III motor composite score		Mean difference (95% CI) adjusted
	Pessary	Control		Pessary	Control		Pessary	Control	
Survivors only	N=111	N=60		N=107	N=56		N=109	N=58	
mean score (+/-SD)	101.3 (14.1)	103.9 (8.2)	-2.3 (-5.1 to 0.5)	104.4 (14.6)	104.7 (8.3)	-0.1 (-3.1 to 2.8)	106.2 (15.4)	105.9 (8.9)	0.7 (-2.4 to 3.8)
Survivors + deceased children	N=118	N=80	Relative Risk (95% CI)	N=114	N=76	Relative Risk (95% CI)	N=116	N=78	Relative Risk (95% CI)
Survival without disability n(%)	109 (92.4)	59 (73.8)	1.25 (1.24 to 3.78)	98 (86.0)	53 (69.7)	1.23 (1.04 to 1.45)	110 (94.8)	57 (73.1)	1.30 (1.13 to 1.49)

531 Long-term effects of cervical pessary for preterm birth prevention in twin pregnancy with short cervix: a 3 years follow-up of the ProTwin trial

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OBJECTIVE: Recently it has been shown that cervical pessary might be effective in the prevention of preterm birth in women with a multiple pregnancy and a cervical length (CL) <38mm. Here, we report the long-term outcome of the children included in that study.

STUDY DESIGN: In the ProTWIN trial, women with a multiple pregnancy had been randomised to pessary or no pessary. As positive effects of pessary on prolongation and improvement of neonatal outcome had only been seen in women with a CL <38mm, we limited follow-up to that group (133 mothers, 157 vs 111 children in pessary and control group respectively). At 3 years corrected age, the children were invited to undergo a Bayley Scales of Infant and Toddler Development-third edition (Bayley-III) assessment. We compared mean cognitive, language and motor function scores between the pessary and control group, adjusted for dependence of twins and triplets and potential confounders in survivors (Table). Analysis including deceased children was performed to calculate the survival rate without disability (disability defined as any Bayley III <1SD below the mean). In sensitivity analysis we used multiple imputation to deal with missing cases resulting from loss-to-follow-up.

RESULTS: Of 268 children born to 133 women in our study group, 241 surviving children were eligible for follow-up of whom 171 children (71%, 111 pessary vs 60 control group) underwent a Bayley-III assessment. In total 27 children died (7 in pessary vs 20 control group) of whom only 2 in the follow-up period. Analysis including deceased and disabled children showed a higher survival without disability in the pessary group when compared to controls (92.4 vs 73.8%, p=0.006). When analysis was limited to survivors, we found neither statistical nor clinically relevant differences in Bayley-III scores between both groups (Table). Analysis using multiple imputation showed comparable results.

CONCLUSION: In women with a twin pregnancy and a CL < 38 mm, cervical pessary increases survival without neurodevelopmental disability in children at 3 years corrected age. As among survivors Bayley-III scores were similar between pessary and non-pessary users, use of a pessary seems to be without adverse long term neurodevelopmental effects for children.

532 The effects of nifedipine and atosiban on the neonatal brain: a secondary analysis of the APOSTEL III trial

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OBJECTIVE: To compare the effects of nifedipine and atosiban on the neonatal brain in neonates born at less than 32 weeks of gestation.

STUDY DESIGN: We performed a secondary analysis of the APOSTEL III-trial (NTR 2967), a randomized clinical trial which allocated women with threatened preterm labor between 25-34 weeks of gestation to nifedipine or atosiban. Women delivering at = 32 weeks of gestational age in the two main participating centers were included for this study. To evaluate difference in type and severity of preterm brain injury, all neonatal ultrasounds made during neonatal admission and at term age were systematically scored (table 1). To identify variables associated with preterm brain injury, logistic regression was performed for predictors and protectors for brain injury obtained from the international literature.

RESULTS: We included 117 neonates, born from 104 women, of which 66 neonates were exposed to atosiban and 51 to nifedipine. Baseline characteristics were comparable between the groups. Brain injury was observed in 22 (43.1%) in the nifedipine group and in 37 (56.1%) neonates in the atosiban group (p = 0.26). Logistic regression showed no association between type of tocolysis and brain injury (OR 0.6; 95% CI: 0.29-1.24). Factors independently associated with decreased or increased brain injury were respectively caesarean section (OR 0.31; 95% CI: 0.12-0.83) and mechanical ventilation (OR 2.73; 95% CI: 1.04-7.12).

CONCLUSION: Brain injury in children born before 32 weeks of gestation was comparable between tocolysis using nifedipine or atosiban. The possible protective effect of a cesarean section in extreme preterm birth should be further explored in this selected population.

Table 1. Scoring table for the degree of brain injury

Grade	Severity of Injury	Type of Injury
Grade 0	No brain injury	None
Grade 1	Mild brain injury	• Grades I and II intraventricular hemorrhage • Persistent pathologic non-decreasing inhomogeneous flaring between day 7-14 • Thinning of the corpus callosum • Pronounced or dilated ventricles (increased anterior horn width, ventricular index or thalamo-occipital distance) with the ventricular index < p97.
Grade 2	Severe brain injury	• Intraventricular hemorrhage grade III / IV or parenchymal/ periventricular hemorrhagic infarction • Post hemorrhagic ventricular dilatation (ventricular index >p97) • Intracerebral local cystic lesions • Cystic periventricular leukomalacia • Cerebellar hemorrhage • Parenchymal infarction • Intraparenchymal hemorrhage.