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Strabismus in children adopted from Russia and Ukraine

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Personal Communication; September 18, 2007

The studies of Andersson-Grönlund et al.[1] and of Landgren et al.[2] in children adopted from Eastern Europe countries in Sweden have communicated that present a high frequency of visual and ocular abnormalities, the most commonly strabismus (32% of the children, after a 5-year post-adoption period).

The authors obtained information regarding the prenatal-perinatal and neonatal periods from medical records from the birth countries in 93% of the children.

On the background, they detailed the following data: prenatal alcohol exposure (between 29%-33%); born preterm (30%); low birth weight (48%); birth weight $\leq$ -2 SD (between 44%-46%), birth length $\leq$ -2 SD (16%), and head circumference at birth $\leq$ -2 SD (29%), respect to Swedish reference values; symptoms or diagnoses of potentially serious perinatal central nervous system pathology (34%)[1,2].

From the medical examination upon arrival in Sweden, 49% of the children had a head circumference $\leq$ -2 SD, and from the post-adoption follow-up period, 3% was diagnosed of cerebral paresis and 5% of foetal alcohol syndrome[2].

Eastern Europe is the main geographic area of the children adopted from abroad by Spanish families[3,4].

The aim of the present study is to determine the frequency of strabismus and its relation with prenatal-perinatal and neonatal risk factors[5], and with the medical diagnoses from the examination upon arrival[4], in a cohort of 185 children (boys, 61.1%) born in Russia (91.9%) and Ukraine (8.1%) who were adopted in Spain (mean age of 2.7 years) between January 2000 and December 2006.

Information regarding the prenatal-perinatal and neonatal periods was obtained from medical records from the birth countries in 169 (91.4%) of the children.

Twenty-one (11.4%) of the adopted children had strabismus (boys, 52.4%; born in Russia, 90.5%). The prenatal-perinatal and neonatal risk factors, and the medical diagnosis upon arrival, in the children adopted from Russia and Ukraine with and without strabismus are described and compared in Table 1 (*Pearson's Chi square, at a level of significance for* $\alpha < 0.05$ *and with 1 degree of freedom; SISA home® operative program*).

The children with strabismus presented a significantly higher incidence for background of perinatal asphyxia with criteria[5] of moderate or severe neonatal hypoxic-ischemic encephalopathy (p = 0.0072; *odds ratio* = 4.15; 95% CI, 1.38-12.54), and for the diagnosis at arrival of foetal alcohol syndrome (p = 0.0406; *odds ratio* = 5.65; 95% CI, 0.89-35.97).

The study published in 2004 by Andersson-Grönlund et al.[1] has been the first, and in our knowledge the only one, detailing the ophthalmological disorders in a large cohort of adopted children from Eastern Europe countries. The findings of a high frequency of born prematurely, low birth weight and prenatal alcohol exposure among the children adopted from Eastern Europe, contrasted with those of other studies performed among children with one or more of these background, make suggest to the authors the relation between the presence of strabismus (and other ocular and visual abnormalities) with the existence of these adverse prenatal and perinatal factors.

The findings of the present study suggest a relation of the strabismus with the background of having suffered moderate or severe neonatal hypoxic-ischemic encephalopathy (supported in many cases, although not always, by factors as the prematurity and/or the low birth weight), and with having alcohol related birth defects in the children exposed during the gestation. We considered that the data published in 2006 by Landgren et al.[2] with regard to the frequency of these adverse factors among the children adopted from Eastern Europe, support the findings observed in our study.

We think that the information contributed in this letter is outstanding for the adoptive families and for the providers of health and educational services, due to the possible repercussion of these adverse factors on long-term neurosensorial and cognitive functioning in this specific population of adopted children.

References

1. Grönlund MA, Aring E, Hellström A, Landgren M, Strömland K. Visual and ocular findings in children adopted from eastern Europe. Br J Ophthalmol 2004: 88: 1362-7.

2. Landgren M, Andersson Grönlund M, Elfstrand PO, Simonsson JE, Svensson L, Strömland K. Health before and after adoption from Eastern Europe. Acta Paediatr 2006; 95: 720-5.

3. Oliván-Gonzaivo G. Comparecencia de D. Gonzalo Oliván-Gonzalvo ante la Comisión Especial sobre la adopción internacional del Senado de España [Mr Gonzalo Oliván-Gonzalvo appearance in the Special Committee on International Adoption of Spanish Senate]. Rev Pediatr Aten Primaria 2003; 5: 675-82.

4. Oliván-Gonzalvo G. Adopción en la Federación Rusa y Europa del Este: problemas de salud y recomendaciones médicas [Adoption in the Russian Federation and Eastern Europe: health problems and medical recommendations]. Rev Ped Aten Primaria 2006; 8: 265-81.

5. Bennett FC. Developmental outcome. In: Avery GB. Fletcher MA, MacDonald MG, eds. Neonatology: Pathophysiology and Management of the Newbom. 5th ed. Philadelphia: Lippincott Williams & Wilkins, 1999.

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Table 1. Prenatal-perinatal and neonatal risk factors, and diagnosis upon arrival, in children adopted from Russia and Ukraine with strabismus (n = 21) and without strabismus (n = 164)

	Adopted children		
	Strabismus (yes)	Strabismus (no)	
	n (%)	n (%)	p Value*
Prenatal-perinatal and neonatal information	19 (90.5)	150 (91.5)	0.7402
Prenatal alcohol exposure	6 (31.6)	45 (30)	0.8876
Prenatal drugs exposure	1 (5.3)	11 (7.3)	0.7406
Prenatal micro-organisms exposure [a]	4 (21)	28 (18.7)	0.8025
Born prematurely (< 37 weeks' gestation)	7 (36.8)	44 (29.3)	0.5017
Low birth weight (≤ 2.500 g)	9 (47.4)	60 (40)	0.538 1
Very low birth weight (≤ 1.500 g)	0 (0)	7 (4.7)	0.336 1
Intrauterine growth retardation [b]	3 (15.8)	26 (17.3)	0.8664
Perinatal asphyxia (moderate-severe degree) [c]	6 (31.6)	15 (10)	0.0072**
Congenital syphilis	1 (5.3)	6 (4)	0.7946
Congenital infection by CMV or VHS	1 (5.3)	1 (0.7)	0.0808
Neonatal bacterial meningitis	0 (0)	1 (0.7)	0.7211
Diagnosis upon arrival			
Cerebral paresis	0 (0)	0 (0)	00000
Foetal alcohol syndrome	2 (9.5)	3 (1.8)	0.0406**
Hydrocephalus	0 (0)	1 (0.6)	0.7197
Head circumference between -2 and -3 SD [d]	2 (9.5)	24 (14.6)	0.5258
Head circumference < -3 SD [d]	2 (9.5)	6 (3.7)	0.2134

[a] *Treponema pallidum, Citomegalovirus (CMV), Herpes virus (VHS), Toxoplasma gondii.*
[b] Weight, length and/or head circumference al birth ≤ -2 SD (standard deviation) for gestational age (corrected respect to WHO/2005 reference values for born term, and respect to Hall el at./1989 reference values for born preterm).
[c] With two or more definition criteria of moderate-severe neonatal hypoxic-ischemic encephalopathy: Apgar score 0-6 at 5 minutes; mechanical ventilation; seizures; dysfunction signs of the cerebral stem; evidence of acute cerebral injury by neuroimagen techniques.
[d] Corrected respect to WHO/2005 reference values.
* Pearson's Chi square; ** p <0.05

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