

## **Selected risk factors for spastic cerebral palsy in a retrospective hospital-based case control study**

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### **ABSTRACT**

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**Introduction:** Cerebral palsy (CP) is caused by damage to the motor control centers of the developing brain and can occur during pregnancy, during childbirth, or following birth.

**Purpose:** To study the selected risk factors for spastic CP in a retrospective study involving children with CP.

**Materials and methods:** The study population included 92 children with spastic CP. The analysis of data from the case records of both groups included the following: child's age, gender, pregnancy order, birth order, type of birth, time of birth, Apgar scores, birth weight, epilepsy, and psychomotor development.

**Results:** CP occurred more often in boys. A total of 27 children had congenital hemiplegia, 35 had diplegia, and 30 had spastic tetraplegia. The mean gestational age at birth for children with CP was  $35.96 \pm 4.2$  weeks versus a mean of  $39.2 \pm 1.4$  ( $p < 0.001$ ) for the control group. The mean number of pregnancies and deliveries for mothers of children with CP compared to the control group did

not differ significantly. Vaginal births and cesarean sections in the group of children with CP and controls occurred in similar percentages. The birth weight of children with CP ( $2615.8 \pm 935.1$ ) was significantly lower than the birth weight among the control group ( $3343.2 \pm 497$ ) ( $p = 0.04$ ). Almost 40 percent of the children with CP were born to mothers who had preterm labours compared to only 5.2 percent of controls. A mean Apgar score for children with CP ( $5.9 \pm 3.3$ ) at 1 minute was significantly lower than that for children without CP ( $9.10 \pm 1.5$ ) ( $p < 0.001$ ). Of the children with CP, 20 percent had epilepsy; none of the children without CP had epilepsy; 22 percent had slight delays, 17 percent had moderate delays, and 12 percent had severe delays.

**Conclusions:** Gender, prematurity, low birthweight, asphyxia and epilepsy were related to the development of CP.

**Key words:** Risk factors; cerebral palsy; retrospective study

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