

9. Summary

Introduction

The percentage of caesarean section births in Poland is nearly 48% nationwide. According to the recommendations of PTGiP, indications for caesarean section are divided into: immediate, urgent, urgent and elective. An elective caesarean section should be performed when there is no need for immediate surgery – the procedure takes place on a fixed date and the factors preventing vaginal delivery are known. According to the recommendations of experts, an elective caesarean section birth should take place after the 39th week of pregnancy. There is no danger to the mother and fetus, no contraction has begun. The risks to the mother resulting from caesarean section delivery include: the risk of thrombosis, pulmonary embolism, hemorrhages, death and others. The most common threats to the child include: respiratory and thermoregulatory disorders, intracranial bleeding, damage to the central and peripheral nervous system, asthma, atopic skin inflammation, food allergies and tooth decay. Newborns born by caesarean section are more likely to present with psychomotor disorders.

The aim of the study

The aim of the study was to assess whether the route of delivery has a significant impact on the motor development of full-term infants born to term.

Material and methods

The study group consisted of infants who were born at the Jan Bizieli University Hospital No. 2 in Bydgoszcz between 10.2020 and 12.2022. The study material consisted of newborns born by caesarean section for elective indications, group A (n-160) and vaginal route group B (n-176). The study of each child was completed at the age of 21 months, assuming this upper limit for achieving independent gait function. An interview was collected on the achievement of successive milestones and any deviations from the norms recommended by the WHO.

No additional procedure was introduced beyond the reported study form for the purposes of the study. The study of achieving individual milestones was an observation rather than a therapeutic intervention.

Newborns who met all of the following inclusion criteria were included in the purposes of the study: vaginal and elective birth after 37 weeks of gestation, obtaining 8-10 points on the Apgar scale in each of the measurements, no deterioration of the child's condition during hospitalization after delivery, no congenital defects revealed after birth, lack of qualification of the child for rehabilitation due to the health condition during the hospital stay, parental consent to participate in the study.

Newborns who had at least one of the following exclusion criteria, vaginal delivery with forceps or vacuum delivery after 37 weeks of gestation, emergency or emergency caesarean delivery due to a threat to the well-being of the mother or child, Apgar score < 8 points in the first measurement, < 8 Apgar score at the subsequent study for newborns who originally scored > 8 points, deterioration of health during postpartum hospitalization, lack of parental consent or withdrawal of consent during hospitalization and the duration of the study.

Results

Babies reach milestones regardless of the route of birth. Important factors influencing the time of achieving individual milestones in the study group were: birth weight, body length,

week of termination of pregnancy in the case of elective caesarean section deliveries and muscle tone. It has been found that the route of delivery can affect the presented muscle tone. Babies born vaginally were more likely to present increased muscle tone, and children born by caesarean section were more likely to exhibit decreased muscle tone. It has been observed that a low birth percentile correlates with the achievement of milestones in time norms. Children born below the 25th percentile were slower to reach milestones.

The analysis shows that babies born by caesarean section are statistically faster to turn from their belly to their back and from their back to their belly, they sit up faster, crawl and stand up on their own.

No statistically significant differences were observed between children who were on and without quadruples in achieving milestones.

Babies born before 39 weeks of gestation have been found to reach milestones of turning, sitting and crawling later.

Babies of mothers with Covid-19 reach milestones later in the second trimester of pregnancy. It has been shown that babies born naturally are breastfed for significantly longer.

Conclusions

The key to achieving the next milestones in children born by caesarean section will be the week of termination of pregnancy. It has been observed that children who attend physiotherapy do not reach individual milestones faster than children who do not exercise.

The method of rehabilitation does not affect the time of achieving developmental norms in the case of children without damage to the central nervous system. Babies born with a lower weight are slower to reach milestones and do not align their weight and height to the age norm at 12 months. Children whose mothers had Covid-19 show reduced muscle tone and a delay in achieving milestones compared to their peers. Undoubtedly, the presented results require in-depth analyses as well as detailed prospective studies.

Key words

milestones, delivery route, caesarean section, natural childbirth, muscle tone