

Birth weight, not postterm delivery, puts a baby at risk for shoulder dystocia

At a given birth weight, the risk of shoulder dystocia is higher in deliveries before 40 weeks than after, according to a population-based study of more than 2 million births

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After adjusting for birth weight, the OR for shoulder dystocia was 2.92 for delivery at 32–35 weeks and 0.91 for delivery at 42–43 weeks

Women who deliver a large infant before 40 weeks' gestation have a higher risk of shoulder dystocia than those who deliver a large infant at 40 weeks' gestation or later, according to a population-based study of all vaginal deliveries in Norway from 1969 to 2009 (n = 2,014,956).¹ The increased risk of shoulder dystocia in deliveries before 40 weeks' gestation was especially pronounced in pregnancies complicated by diabetes.

Large infants were defined as those weighing 3,500 g or more at delivery.

Details of the study

Using the Medical Birth Registry of Norway, Overland and colleagues analyzed all vaginal deliveries of a singleton fetus in cephalic presentation over 30 years, calculating the incidence of shoulder dystocia by gestational age at delivery and estimating both crude and adjusted odds ratios.

Overall, the incidence of shoulder dystocia was 0.73%, and it increased along with gestational age at delivery. Using delivery at 40 to 41 weeks of gestation as the reference, Overland and colleagues found the following crude odds ratios (OR) for shoulder dystocia:

- delivery before 36 weeks: 0.27 (95% confidence interval [CI], 0.22–0.33)
- delivery at 42–43 weeks: 1.17 (95% CI, 1.11–1.22).

However, after adjustment for birth weight, the adjusted OR for shoulder dystocia was:

- delivery at 32–35 weeks: 2.92 (95% CI, 1.54–5.52)
- delivery at 42–43 weeks: 0.91 (95% CI, 0.50–1.66).

Among gestations affected by diabetes (n = 11,188), the incidence of shoulder dystocia was 3.95%.

Longer pregnancies may be better “primed” for delivery

The surprising finding that the risk of shoulder dystocia is lower in postterm infants than in infants delivered prior to 40 weeks at a given birth weight “is not easily explained,” write Overland and colleagues.¹ “A successful delivery depends on a complex interplay between the uterus, the pelvis (the pelvic girdle and the pelvic floor muscles) and the offspring.... The physiologic changes that occur during pregnancy to prime the pregnant woman and the offspring for delivery are likely to be complete by the estimated term. Hence, the risk for delivery complications, such as shoulder dystocia, may be increased in deliveries before term,” the investigators theorize.¹

Reference

1. Overland EA, Vatten, LJ, Eskild A. Pregnancy week at delivery and the risk of shoulder dystocia: a population study of 2,014,956 deliveries. *BJOG*. 2014;121:34–42.