

# Cesarean section tied to higher risk for later leukemia in offspring

September 15 2022

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Elective cesarean section (CS) is associated with an increased risk for

leukemia in offspring, according to a systematic review and meta-analysis published online Aug. 24 in *Hematological Oncology*.

Yingzhu Yang, from Ningbo Women and Children's Hospital in China, and colleagues conducted a systematic literature review to identify studies evaluating the association between CS and childhood leukemia. The risk for leukemia in children born via CS versus those born vaginally was the primary outcome examined.

Based on 16 studies, the researchers found that having a CS was associated with an increased risk for [childhood leukemia](#) in offspring versus having a vaginal delivery (odds ratio [OR], 1.07; 95 percent confidence interval [CI], 1.02 to 1.13;  $P = 0.01$ ), especially for acute lymphoblastic leukemia (OR, 1.09; 95 percent CI, 1.03 to 1.16;  $P = 0.004$ ). Risk for [acute lymphoblastic leukemia](#) was higher for children delivered via elective CS (OR, 1.18; 95 percent CI, 1.07 to 1.31;  $P = 0.001$ ), but not among children delivered by emergency CS (OR, 1.11; 95 percent CI, 0.86 to 1.42;  $P = 0.430$ ). There was no association observed between either emergency or elective CS and [acute myeloid leukemia](#) (ORs [95 percent CIs], 1.59 [0.92 to 2.77;  $P = 0.098$ ] and 0.88 [0.63 to 1.23;  $P = 0.451$ ] for emergency and elective, respectively).

"Some pregnant women require CS to save their lives during obstructed delivery and other emergency obstetric conditions, significantly reducing maternal and child mortality. It should, however, not be overused," the authors write. "Professionals and [pregnant women](#) should raise awareness about the potentially harmful effects of elective CS on children's health."

**More information:** Yingzhu Yang et al, Association of cesarean section with risk of childhood leukemia: A meta-analysis from an observational study, *Hematological Oncology* (2022). [DOI: 10.1002/hon.3070](#)

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