

PEDIATRICS

Chemotherapy exposure during pregnancy—good news

Chemotherapy is used to treat malignancy during the second and third trimester of pregnancy; however, the neurocognitive effects in children are poorly documented, and the cardiotoxic effects of anthracyclines, which are used frequently during pregnancy, are a concern. Thus, many women are faced with the turmoil of deciding whether to withhold life-saving treatment to spare their baby from the affects of damaging therapy.

This situation prompted Frederic Amant and his team to conduct a multicenter, observational, cohort study to assess the long-term general health, and neurodevelopmental and cardiac outcomes of children with prenatal exposure to chemotherapy. The researchers assessed 70 children at birth, at 18 months of age, and aged 5–6, 8–9, 11–12, 14–15 and 18 years. Results at a median follow-up period of 22.3 months (interim analysis) were encouraging. Amant elaborates, “we conclude that children after antenatal exposure to chemotherapy perform as well as other children of the same age

regarding general health, growth, central nervous system and cardiac morbidity. Problems that were noted in cognitive development, however, were in children born prematurely.” Importantly, fear of chemotherapy-induced damage to the baby should not be a reason for a termination. Crucially, the study showed that delaying maternal chemotherapy treatment is not necessary, and that the consequences of premature delivery are more severe than the effects of chemotherapy after the first trimester of pregnancy.

In children born prematurely, the IQ score was significantly compromised being 10 score points lower than the general population for children born 1 month early. This finding is concerning since some children are iatrogenically delivered at 32 weeks, significantly affecting their long-term outcome.

The researchers acknowledge the limitations of the study that include a small sample size and relatively short follow-up period. Amant continues, “this is an interim analysis and we will study more



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children with a longer follow up and also include a control group of children born at the same gestational age but without prenatal exposure to chemotherapy.” Although mature data are awaited, the results of this study are encouraging.

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Original article Amant, F. *et al.* Long-term cognitive and cardiac outcomes after prenatal exposure to chemotherapy in children aged 18 months or older: an observational study. *Lancet Oncol.* doi:10.1016/S1470-2045(11)70363-1.