

Pregnancy Outcomes Following Stem Cell Transplant for Cancer Survivors: a Systematic Review

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Objective:

There are approximately 870 new cancer diagnoses in girls annually in the UK, and as treatments have improved, five-year survival is now >80%. However, chemotherapy, radiotherapy, and stem cell transplant (SCT), can come with a cost: late effects is the term used for treatment side-effects, including those affecting fertility and pregnancy, which occur or persist five or more years following completion of cancer treatment. 73% of childhood cancer survivors have at least one chronic health problem by 40 years of age.

Previous studies have shown a key determinant for quality of life in cancer survivors is the ability to have children. Relatively little is known about pregnancy outcomes for women managed for haematological malignancies with SCT +/- Total Body Irradiation (TBI). This matters as it limits the prenatal and antenatal advice that childhood cancer survivors can be given; anecdotal evidence from our group suggests that these women may benefit from preconception counselling and early referral to high-risk preterm birth prevention clinics.

The objective of this systematic review is to investigate pregnancy outcomes for survivors of haematological malignancies treated with SCT, with or without TBI. This review is part of a wider study of pregnancy outcomes following SCT +/- TBI, jointly funded by Action Medical Research/Borne. Together, they will enable a unified and best-practice approach to optimise the pregnancy care available for these women, and to safely manage their risk profile.

Design:

- Systematic review
 - Prospero registration:
https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42022304757
- A search was conducted via the following databases:
 - MEDLINE, EMBASE and Cochrane CENTRAL Register of Controlled Trials, CINAHL via EBSCO, and ClinicalTrials.gov
 - From inception until February 2022, and limited to human studies
 - Given the subject, there were unlikely to be RCTs available, and therefore observational studies were to be included
- The criteria were:
 - Population: Pregnant people
 - Exposure: History of SCT +/- TBI prior to becoming pregnant
 - Comparator: No such history
 - Main outcome: Live birth rate

Results:

9655 relevant titles were identified from the initial search. Following screening by two independent reviewers, 15 observational studies were included of varying quality. In addition, 23 case studies were identified. We are currently completing the analysis, and shall publish our findings in full shortly.

Conclusion:

There is limited evidence available at present regarding pregnancy outcomes for childhood cancer survivors treated with SCT +/- TBI, and more studies are required to provide evidence to guide future recommendations.