Pregnancy rates after conservative treatment for borderline ovarian tumours: a systematic review

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CRD summary
This review concluded that conservative surgery was a viable option for the management of borderline ovarian cancer in women who wished to remain fertile. The reliability of this conclusion is unclear given the lack of any assessment of study quality and concerns about the methods used to synthesise the data.

Authors' objectives
To determine pregnancy rates in women with borderline ovarian tumours treated with conservative surgery.

Searching
MEDLINE (1966-2006), Cochrane Central Register of Controlled Trials, EMBASE (1980-2006) and the Specialised Register of the Cochrane Gynaecological Cancer Group were searched for articles published in any language. Search terms were reported. Reference lists of relevant papers were searched and relevant articles were re-entered into PubMed to search for related articles.

Study selection
Studies of women who underwent conservative treatment for borderline ovarian cancer that reported pregnancy and fertility outcomes were eligible for inclusion. Inclusion criteria for study design were not specified. Case reports, studies with a sample size less than 10 and duplicate publications were excluded.

Most participants in the included studies had serous or mucous malignancies. Women with mixed or other histological subtypes were also included. Most participants had stage 1 or stage 2 disease. Where reported, the mean age of women ranged from 26 years to 35.5 years. Outcomes reported were number of participants pregnant, number of pregnancies achieved, recurrence, recurrence after pregnancy and disease-related death. Studies varied in the way they defined pregnancy outcomes, including number of pregnancies, number of viable deliveries and number of healthy babies delivered. Where stated, the mean follow up of included studies ranged from 26 months to 136 months. All included studies were retrospective.

More than one reviewer was involved in the study selection process, but it was unclear whether the reviewers decisions were made independently.

Assessment of study quality
The authors did not state that they assessed validity.

Data extraction
Data were extracted on the number of women who underwent conservative surgery. Within this group, the number of participants who desired pregnancy and the number of participants for all other outcomes were extracted. Data were extracted independently by two reviewers.

Methods of synthesis
A crude estimate of the pregnancy rate was calculated by dividing the total number of pregnant women across all studies by the total number of participants in all of the studies. The pregnancy rate for those women who wanted to conceive was calculated by dividing the total number of pregnancies across all studies by the total number of women wanting to conceive across all studies. Other results were presented in a narrative synthesis.

Results of the review
Nineteen retrospective studies were included for review (n=923).
Two hundred and six participants achieved 254 pregnancies, which gave a pregnancy rate of 22%. When only women who wished to conceive were considered, the pregnancy rate rose to 48% (103 pregnant women out of a group of 213 who wished to conceive). Twenty pregnant women were reported to have undergone assisted conception; data on assisted conception was not available for all studies. The recurrence rate was 16%. The number of disease-related deaths was five.

The authors reported that some participants had a history of sub-fertility prior to diagnosis and some after surgery. The authors also stated that many studies reported that participants underwent fertility treatment without risk of recurrence. However, no data were presented for these outcomes. Consistent data were not available on adverse pregnancy outcomes, but many studies reported the number of viable deliveries or the number of healthy babies born.

**Authors’ conclusions**
Conservative surgery was a viable option for women who wished to remain fertile. The recurrence rate was low.

**CRD commentary**
The review addressed a clear question and the inclusion criteria for participants, intervention and outcome were well defined. However, inclusion criteria for study design were not stated and the design of included studies was unclear. Several relevant databases were searched with no language restrictions, which minimised the risk of language bias. No attempts were made to locate unpublished material, so publication bias could not be ruled out. Appropriate steps were taken in the data extraction process to minimise reviewer error and bias, but it was unclear whether this was the case for the study selection process. No validity assessment appeared to have been carried out, so was not possible to determine the reliability of the data. Statistical heterogeneity was not assessed and there was insufficient information on the individual studies to determine the appropriateness of pooling the results. The methods used to calculate the pooled pregnancy rates were crude and the results should be interpreted cautiously as they may not be reliable. The review may have benefited from a more detailed account of individual studies and results, especially in relation to questions of subfertility and assisted conception. The reliability of the authors’ conclusions is unclear given the lack of any assessment of study quality and the concerns about the methods used to synthesise the data.

**Implications of the review for practice and research**
**Practice:** The authors stated that until long-term research clarified optimum care, decisions about further surgery should be made on an individual basis.

**Research:** The authors did not state any implications for research.

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