Taxanes for ovarian cancer during pregnancy: a systematic review
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CRD summary
This review found that taxanes can be used in the treatment of pregnant women with ovarian cancer during the second and third trimesters of pregnancy. A paucity of evidence and the unknown quality of the included studies means the reliability of the authors' conclusions is unclear.

Authors' objectives
To evaluate the safety and effectiveness of treatment with taxanes during pregnancy in women with ovarian cancer.

Searching
MEDLINE was searched to March 2012 for relevant studies. There were no language restrictions Search terms were reported. References of retrieved articles and relevant reviews were checked to identify additional studies.

Study selection
All studies (except reviews) that evaluated the safety and effectiveness of taxanes administered during pregnancy in patients with ovarian cancer were eligible for inclusion.

The mean age of the patients at diagnosis of ovarian cancer was 33 years (range 24 to 42 years). Patients presented with mucinous adenocarcinoma, mucinous cystadenocarcinoma and papillary serous adenocarcinoma. One patient was later diagnosed with dysgerminoma. Gestational age at chemotherapy ranged from 16 to 30 weeks. Paclitaxel was used in all trials except one at a range of doses with either cisplatin or carboplatin; docetaxel and cisplatin were used in the other study. Outcomes evaluated were gestational age at delivery, foetal outcomes, delivery weight, adverse events of chemotherapy during pregnancy and overall survival and progression-free survival.

Two reviewers independently performed the study selection.

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

Data extraction
Two reviewers independently extracted data on the outcomes from the included studies.

Methods of synthesis
The results of the review were summarised in a narrative synthesis.

Results of the review
Nine studies (12 pregnancies, 13 newborns) were included in the review: eight case studies and one case series of three women, one of whom experienced a twin gestation. Median follow-up after birth was 20 months post delivery.

The mean gestational age at delivery was 35.7 weeks (range 34 to 38 weeks). Where stated, weights of the newborns ranged from 1,900g to 2,800g. All the newborns were delivered by caesarean section. One baby died at five days old from congenital abnormalities diagnosed before initiation of chemotherapy. Newborns were rated as "healthy" at time periods from six months to 11 years post delivery; one twin had attention-deficit disorder and one baby experienced intrauterine growth restriction but was healthy at six months of age. All other babies were born healthy.

Side effects experienced by the pregnant women included fatigue, grade II neutropenia, grade I vomiting, alopecia and nausea. No Grade III or Grade IV effects were observed. Overall survival ranged from more than 9.75 months to more than 45 months. Disease-free survival ranged from 6.5 months to more than 45 months. Six out of eight women were free from disease at the end of follow-up.

Authors' conclusions
Available data showed that taxanes may be used in the treatment of ovarian cancer in pregnant women with ovarian cancer during the second and third trimesters; the risk of abortion or congenital abnormalities increased if taxanes were used in the first trimester.

CRD commentary
The review addressed a broad question. Criteria for the inclusion of studies were defined. Only one appropriate database was searched so relevant studies may have been missed. There were no attempts to identify unpublished studies so publication bias was a possibility. Most of the studies were case reports but there was nevertheless no assessment of methodological quality and this made the reliability of the results unclear. The reviewers decision to summarise the results in a narrative review appeared justified. The review was limited by a paucity of research.

The authors’ conclusions were based on the evidence presented but the reliability of their conclusions is uncertain because of the small sample sizes and lack of information regarding the quality of the included studies.

Implications of the review for practice and research
Practice: The authors stated that taxanes may have an important role in therapeutic strategies for pregnant women with ovarian cancer but treatment strategies should be determined by the medical team, the patient and the family depending on gestational age, ovarian cancer stage and the patient’s wishes.

Research: The authors stated that there was limited information available about the long term consequences of treatment on the babies exposed to chemotherapy during gestation.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.