Treating Breast Cancer During Pregnancy
What Can be Taken Safely?

Marc Espié and Caroline Cuvier
Centre des Maladies du Sein, Oncologie Médicale Pr M. Marty, Hôpital St Louis, Paris, France

Summary
The occurrence of breast cancer during pregnancy is a rare clinical situation. However, if it is diagnosed, a multidisciplinary approach involving an obstetrician, a medical oncologist and a surgeon is needed. In this situation, breast cancer should be treated according to the same principles applied in nonpregnant patients. Termination of pregnancy does not improve survival. Decisions regarding abortion should be based on the desires of the patient and on therapeutic necessities.

If required, surgery is always possible, but radiation therapy should be avoided because of the risk of fetal toxicity. Antineoplastic drug therapy, if indicated, is possible after the first trimester.

Breast cancer and cervical cancer are the 2 most commonly occurring cancers during pregnancy.[1] Pregnancy-associated breast cancers comprise not only those breast cancers arising during pregnancy, but also those that arise in the year after pregnancy. We will consider in this article only the first group of tumours: those arising during pregnancy itself. As the subclinical phase of the disease lasts for several years,[2] these cancers are presumed to have existed before the onset of the pregnancy.

Wallack and colleagues,[3] in a review of 32 papers, concluded that pregnancy associated with breast cancers accounts for 0.2 to 3.8% of all breast cancers. Alternatively, 1 breast cancer would be expected to arise in every 3000 to 10,000 pregnancies.[4] The frequency of concomitant breast cancer and preg-
nancy is at least 15% for patients who develop breast cancer before the age of 40 years. The mean age of women who develop breast cancer during pregnancy is between 32 and 38 years, although exceptional cases have been described for very young women (less than 20 years old). The increased number of delayed pregnancies in women aged between 30 and 40 years may explain the higher frequency of the association in recent years.

1. Diagnosis

It must be emphasised that clinical breast examination of pregnant women is most important, and has to be done as soon as pregnancy is recognised in order to detect any suspicious mass. Indeed, clinical diagnosis will be increasingly difficult as the pregnancy progresses. Mammography is permitted during pregnancy; the abdomen can be protected by a lead apron. However, the interpretation of mammograms is more difficult because of the oedema and increased vascularity of the breast associated with pregnancy. Echography may be helpful in case of diagnostic difficulties with mammography. A mammogram interpreted as ‘normal’ is not sufficient if there is a palpable lump, and more investigations have to be done. Max and Klamer described 8 women with palpable breast lumps, 6 of whom were reported to have a ‘negative’ mammographic examination, but who in fact had histologically proven breast cancers.

Fine needle aspiration for cytology is an essential diagnostic tool that allows a cyst or galactocele to be distinguished from a solid mass. Nevertheless, cytology during pregnancy is not as easily interpreted as that performed outside of pregnancy. The cytologist has to be informed that the woman is pregnant, and should be experienced in the diagnosis of these diseases. Indeed, false positive results are possible because of the hypercellularity of the mammary tissue and the more frequent occurrence of cytonuclear atypia.

The usual benign lesions can occur during pregnancy, including adenofibroma, lipoma, papilloma, cysts and inflammatory phenomena. Lobular hyperplasia seems to be more frequent, while galactocele, abscess and infarction of pre-existing adenofibroma have also been described. Benign inflammatory mastitis or abscess must be distinguished from a cancerous inflammatory tumour. Inflammatory carcinoma of the breast is no more frequent during pregnancy than in nonpregnant women, contrary to what was previously believed.

About 3% of breast cancers that arise during pregnancy are reported to be inflammatory breast cancers and, as yet, the specific outcome and prognosis of inflammatory breast cancer arising during pregnancy is unknown. Nevertheless, a recent retrospective multicentre French study described a 24% incidence of such inflammatory presentations. Each inflammatory breast lesion requires histological examination, so a biopsy must be performed. This is always possible, but it should be noted that increased vascularity necessitates meticulous haemostasis and also that breastmilk, acting as a culture medium, enhances the infectious risk.

2. Evolution and Prognosis

The poor prognosis of breast cancer in pregnancy is generally thought to result from late diagnosis, and the consequent delays in initiating treatment. It may also relate to the relatively young age of the patient, which in itself appears to be a pejorative factor. In the French multicentre study of Giacalone and colleagues, the overall 3-year survival was 57% for patients with breast cancer during pregnancy, compared with 74% for nonpregnant patients with breast cancer; this difference was no longer significant if metastatic and inflammatory tumours were excluded. However, the recent study of Schoultz et al. suggests that when adjusted for age, the prognosis is similar. The French multicentre study did not find that pregnancy was a bad prognostic factor in itself, but confirmed the detrimental influence of a young age at diagnosis.