Anthracyclines for gestational breast cancer: course and outcome of pregnancy

Gestational breast cancer (GBC) is a rare disease characterised by an aggressive clinical and biological behaviour [1]. In selected GBC patients, the administration of anthracycline-based regimens was shown to improve outcome [1]; however, the safety of this approach remains of concern. Here, we report the effects of anthracycline-based regimens on the course and outcome of pregnancy in patients treated at our institutes. The efficacy analysis will be reported in a separate publication.

From 1998 to 2007, 26 patients with GBC were treated with anthracycline-based regimens (23 epirubicin, three doxorubicin). Sixteen patients received chemotherapy in the adjuvant (61%), nine in neo-adjuvant (35%) and one in the metastatic (4%) settings. Median age at GBC diagnosis was 35.5 years (range 23–42). Chemotherapy was delivered during the second trimester in all patients with a median number of four cycles (range 2–5). No pre-eclampsia, oligohydramnios or intrauterine growth restriction was observed. Median gestational age at delivery was 35 weeks (range 28–40) with two preterm deliveries. Caesarean section and vaginal deliveries were carried out in 19 and seven patients, respectively. No congenital anomalies were encountered except one newborn with polycystic kidney. At a median follow-up of 27 months (range 0–84), all children have normal development, as reported by their parents.

Recently, two other series addressed the safety of anthracycline-based regimens in GBC. Hahn et al. [2] prospectively treated 57 patients with 5-Florouracil, doxorubicin, cyclophosphamide regimen. Median gestational age at delivery was 37 weeks and median foetal weight was 2890 g. Three congenital anomalies were reported: Down syndrome, clubfoot and bilateral ureteral reflux. Ring et al. [3] treated 28 patients, 16 of whom received anthracycline-based regimens. Median gestational age at delivery was 37 weeks with a median weight of 3000 g. No congenital anomalies were reported.

Our results are consistent with those already reported. In our series, weight at delivery was within normal range according to gestational age. The administration of anthracycline-based regimens did not adversely affect the course of pregnancy or increased the risk of congenital anomalies. Offspring’s follow-up (range 0–84 months) showed no significant remote adverse events. Similar observations were reported by Hahn et al. with longer follow-up (range 2–157 months).

As a significant fraction of anthracyclines crosses the placenta [4], long-term cardiotoxicity remains of concern. No cardiac events were reported in any of the described series. However, we acknowledge that none had a long enough follow-up to exclude this possibility.

On the basis of the available literature, application of anthracycline-based regimens in GBC does not seem to threaten the course or outcome of pregnancy. Nevertheless, the retrospective nature of most of the current evidence influences the quality and accuracy of the data. Currently, the German Breast Group/Breast Intergroup is actively working on establishing a European database to include all patients with GBC. Preliminary data on 122 patients show no adverse foetal outcomes [5]. Similar approaches would help in providing stronger evidence on the short- and long-term safety profile of chemotherapy in this critical clinical setting.

H. A. Azim Jr1, F. A. Peccatori1*, G. Scarfone2, B. Acaia2, P. Rossi2, R. Cascio1 & A. Goldhirsch1

1Department of Medicine, European Institute of Oncology, 2Division of Obstetrics and Gynaecology, IRCCS Policlinico, Mangiagalli and Regina Elena, University of Milan, Milan, Italy

*E-mail: fedro.peccatori@ieo.it

references


doi:10.1093/annonc/mdn396
Published online 18 June 2008