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Sequential single-agent chemotherapy as neoadjuvant treatment in early stage HER2 positive breast cancer during pregnancy: case report

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Objective: This is a case report about a successful treatment using sequential chemotherapy in pregnant patients with early HER2-positive breast cancer. **Results:** Clinical case: A 38-year-old woman was referred to our hospital on May 26, 2022, diagnosed with an early (T1N0M0, stage IA) invasive carcinoma of no special type hormonal receptor-positive HER2-positive tumor on the left breast and a 12-week pregnancy. The patient started the neoadjuvant treatment at 13 weeks and 5 days of gestational age on May 31 with four cycles of 3-weekly Doxorubicin, finishing on August 9. The treatment with Cyclophosphamide was delayed by 1 week because of transport problems, starting on August 30 and finishing on October 11. We employed a dose-dense regimen to allow time for recovery before childbirth, scheduled for November 4. The labor was a cesarean section without complications. We restarted the treatment with weekly paclitaxel and trastuzumab on November 15, 2022, after 5 weeks from the last chemotherapy. The patient underwent breast-conserving surgery and sentinel lymph node biopsy without complications, resulting in a complete pathologic response in the pathology report. She received adjuvant treatment with radiotherapy and started tamoxifen. She completed the treatment with trastuzumab. **Conclusion:** As demonstrated in the CALGB 9741 study, single sequential chemotherapy is equally effective as a concurrent protocol, being an option for patients in the early stages of the second trimester, reducing fetal exposure to chemotherapeutic agents, and enabling concomitant use of trastuzumab with taxane.

Keywords: pregnancy; breast cancer.