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Motherhood on a precarious path: Pregnancy following breast carcinoma – Case report

Perković Pavo [a], Culej Bošnjak Diana [a], Bertović Žunec Ivan [a], Lučić Dejana [b], Duić Željko [a,c], Bursać Danijel [a,d,*]

[a] Department of Obstetrics and Gynecology, University Hospital Merkur, Zagreb, Croatia
[b] Polyclinic Vaš pregled, Zagreb, Croatia
[c] School of Medicine, University of Zagreb, Croatia
[d] University of North, University Center Varaždin, Croatia

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ABSTRACT

Women of childbearing age frequently express a desire for pregnancy even after a diagnosis of breast cancer and after undergoing treatment. The average age of primiparous women is rising and gynecologists and oncologists are faced with inquiries about pursuing childbearing after the diagnosis of breast cancer. We present a case of a 39 year old women who came to our clinic in 39th week of gestation, gave vaginal birth to a vigorous neonatus and underwent into dyspnea just two hours after the delivery. She voluntarily disclosed her advanced stage of breast cancer diagnosis, as she feared it could lead to the termination of her pregnancy. After she was released from the hospital, she did not attend any follow-up appointments at our clinic, hence we have no knowledge whether she contacted her oncologist or the outcome of her primary disease.

Introduction

The increasing trend of delayed childbirth is often attributed to lifestyle choices and the pursuit of a career before motherhood. As a woman's age advances, her reproductive potential diminishes, while the desire for assisted reproductive procedures (ART) tend to rise. Additionally, the risk of developing oncological diseases also increases with age, with breast cancer being one of the most prevalent among women. It stands as the second most frequent malignancy diagnosed during pregnancy with an incidence rate of 1 in 1000–3000 pregnancies and can reach up to 3 %. [1,2] The incidence is rising over the years due to increasingly common trend of delay childbearing. [1,2] It is usually diagnosed at more advanced stages compared to non-pregnant women. [2,3] Tumors tend to be highly proliferative, poorly differentiated and with low endocrine responsiveness. [3] The most common problem that physicians have with the patients is communication. [2,4] One of the leading challenges is uncovering true information. [4] Patients often exhibit a tendency to conceal real problems, putting doctors in challenging positions. [4] Consequently, it is imperative to discuss fertility preservation techniques with all young women who necessitate chemo or radiotherapy.

Case presentation

A primigravida arrived at our clinic during her 39th week of pregnancy after in vitro fertilization (IVF), experiencing labor contractions and reporting a history of lumbosacral pain, which she attributed to the later stages of pregnancy. Throughout her pregnancy, she provided no information about her underlying primary disease, withholding these details not only from her primary gynecologist but also from our clinic. The delivery proceeded without complications, occurring at 39 weeks of gestation and yielding unremarkable outcomes. She had spontaneous vaginal delivery of a vigorous male baby 3100 g and 50 cm, Apgar score 10/10. Two hours after undergoing vaginal delivery, the patient's medical condition deteriorated rapidly, with dyspnea emerging in as the primary concerning symptom. Due to suspicion of a thromboembolic event, a computed tomography pulmonary angiogram (CTPA) was done (Fig. 1.). Results came back negative for embolic incident, but showed pleural effusion and atelectasis in the left lung, mediastinal lymphadenopathy and large lymph nodes in the neck and left axilla. The patient was immediately transferred to the intensive care unit. Pleural fluid punction was performed (1300 ml) to asses the patients condition and cytological examination confirmed malignant epithelial cells. Once the

* Correspondence to: Department of Obstetrics and Gynecology, University Hospital Merkur, Zajčeva 19, Zagreb 10 000, Croatia.
E-mail address: dbursac@unin.hr (B. Danijel).

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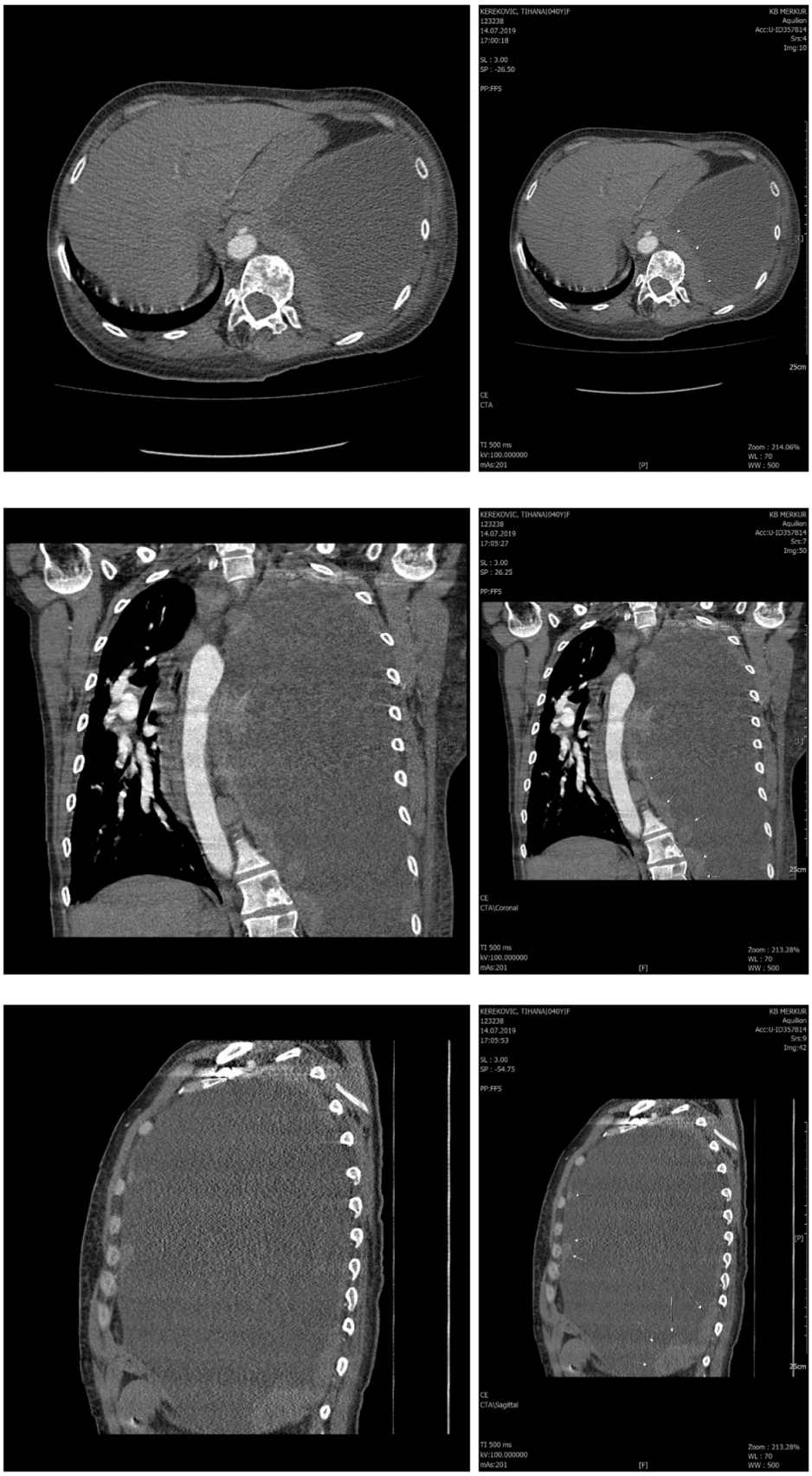

Fig. 1. MSCT angiography.

patients stability was ensured, heteroanamnestic, retrograde patient history was initially obtained from her husband because she still refused to disclose any information about her previous illness. Five years ago she was diagnosed with malignant breast carcinoma and underwent hormonal, chemo and radiotherapy. Afterwards, segmental mastectomy with dissection of axilla was done and hormonal therapy was continued during the next two years. Despite all, she underwent ovarian stimulation process where two oocytes were retrieved and two embryos frozen. She became pregnant in 2018 following a fetal embryo transfer. Throughout the pregnancy, she did not undergo any oncological evaluation of her primary disease. During the retrospective patient history, she had worsening of symptoms (pelvic girdle pain, dyspnea) in the second trimester, but she disregarded them due to concerns about potential termination of the pregnancy.

Discussion

Breast cancer typically manifests as a painless mass (from 82 to 95 %) or thickening in the breast, sometimes accompanied by nipple discharge. [1,3] Nuliparous women face a greater susceptibility to breast cancer compared to those who have given birth multiple times. [1–3] Correspondingly, nuliparous women who experience their first childbirth after the age of 30 have slightly elevated breast cancer risk. [1] Ultrasonography is sensitive (up to 100 %) diagnostic method. [1,3] Golden standard is biopsy of a suspicious mass. [1] Breast cancer patients who wish to become pregnant should not be discouraged, there is no adverse effect of pregnancy on survival. [5] The balance between maternal health and the safety of the fetal developing is one of the key concerns. [1,4–6] Adjuvant therapies such as chemoterapy, radiotherapy and hormone therapy play a substantial role. [4–6] Almost all chemoterapy agents cross the placenta. [1,4] We should consider abstaining or minimiting chemoterapy administration around one month prior to the delivery, aiming to alleviate potential strain on the neonates immature liver and kidneys. [1,4] Nonetheless, post-delivery, we should avoid the use of cyclophosphamide, methotrexate and doxorubicin due to their potential passage into breast milk. [1,4] Assisted reproductive technology (ART) can be used without causing significant effects on long-term breast cancer outcomes. [5,7] Therefore, the American Society of Clinical Oncology duidelines highly recommend that an oncologist, along with fertility specialist, initiate and counsel the patient about fertility preservation techniques. The available options include: oocyte cryopreservation, embryo cryopreservation, ovarian tissue cryopreservation and ovarian suppression using gonadotropin-releasing horomone analogs (GnRH). [5,6] Breastfeeding seems to be both feasible and safe. [1,5,6] The quality of life is influenced by physical health, emotional well-beeng and social support. [6].

Conclusion

Once again, this case confirms the undeniable drive to attain motherhood, that cannot be prevented even by a malignant disease that ultimately claims the mother's life. Trust and effective communication between patients and physicians serve as the cornerstone for successful treatment. The decision of wether to embark on pregnancy must be tailored to the individual patient, taking into account tumor attibutes, disease stage and the patients preferences. In our case, not only were we unaware of our patient's previous medical history of breast cancer and the subsequent hormonal, chemotherapy and radiotherapy treatments, but she also did not disclose any information regarding medications used for ovarian stimulation during assisted reproductive technology (ART). This emphasizes the critical role that personalized medical guidance plays in supporting women who face the challenging decision of pursuing pregnancy despite her own battle and the possibility that she may not be able to raise the child.

Declaration of Competing Interest

None.

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