Case Report

Carcinoma of the breast presenting as deep vein thrombosis of the axillary vein

Khalid Hamid Changal (MBBS) [*1]
Hameed Raina (MBBS) [1]
Manzoor Ahmed Parray (MBBS) [1]
Fayaz Ahmad Sofi (MD) [1]

1- Department of Internal Medicine, Sher-i-Kashmir Institute of Medical Sciences, Srinagar, Kashmir, India

*** Correspondence:**
Khalid Hamid Changal,
Department of Internal Medicine, Sher-i-Kashmir Institute of Medical Sciences, Srinagar, Kashmir, India.

E-mail: khalidchangal@gmail.com
Tel: 0091 9469049626

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Abstract

Background: Breast cancer is the most common type of malignancy in the female population, rarely is reported by thromboembolic events during the course of the disease. In this case, we present a rare case of breast cancer presenting as deep vein thrombosis of the axillary vein.

Case Presentation: A 40-year- old female was admitted due to pain and swelling of her right arm and forearm of two months' duration. The right arm was grossly edematous with pitting edema. Breast examination showed non-tender fixed nodules in the right outer quadrant of the right breast. Doppler ultrasonography showed right axillary vein thrombosis. The pathologic examination of the nodules confirmed infiltrating ductal adenocarcinoma.

Conclusion: This case highlights the procoagulant state of malignancies and it is important to remember that though rare, breast malignancies can present as deep venous thrombosis. This case also highlights the early and aggressive evaluation of any breast discharge to rule out carcinoma of the breast.

Keywords: Breast carcinoma, Deep Vein Thrombosis, Axillary vein.

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Breast cancer is the most common type of malignancy in the female population. Malignancy induces a prothrombotic state, and cancer treatment is often complicated by either venous or arterial thrombotic events. Approximately 15% to 20% of all cancer patients develop thrombosis during the course of the disease. The incidence of cancer-related thrombosis varies according to the primary site, and patients with gynecological and breast cancers are at higher risks of developing venous thromboembolism (VTE) compared with the general population (1). 1% of patients of breast cancer experience complications by thromboembolic events during the course of the disease (2). The thromboembolic event occurred before the diagnosis of cancer in the current patient. This is a rare event that has been reported only rare times.

Case presentation

A 40-years-old female, married for 15 years with two breastfed children was admitted with chief complaints of pain of her right arm for 2 months, swelling of her right arm for 1 month and small lumps in right breast for 1 month. The patient had a 2 month history of pain in her right arm, gradual onset, involving her whole arm and forearm as well, severe in intensity, stabbing, associated with pins and needles sensations in the arm and episodic weakness causing sometimes things to lose grip of her hand. Pain continued and was not relieved by anything and kept on increasing in intensity. The arm swelling increased gradually over a period of one month starting from the arm and eventually involving the forearm and hand.

At the time the swelling appeared, she had also started to notice multiple small painless marble sized lumps in her right breast in the upper outer quadrant and also in her arm pit with intermittent minimal bloody discharge from the nipple of her right breast. There was also history of red discoloration over the small masses. Also the patient complained of dry cough without any hemoptysis for one month. There was history of altered mental status in the form of hypoactiveness lasting for 5 to 10 minutes intermittently for the past few weeks without any history of convulsions or vomiting. There was no history of fever, bone pains or any GIT complaints and there was no history of any cancer in the family.

Past history was significant for an episode of bloody discharge from her right breast around one and a half years ago but that time the patient was not evaluated fully and had been managed symptomatically. On examination, the right arm was grossly edematous with pitting edema, normal temperature, no tenderness, with no neuro deficits although historically she had intermittent weakness of the arm (figure 1).

Breast examination showed that there were multiple small matted firm non tender fixed nodules in the right outer quadrant of the right breast with no abnormality detected in the left breast. Multiple axillary matted hard fixed non tender lymph nodes were palpated in the right axilla and the right supraclavicular region (figure 2).

An aggressive evaluation of the patient was started. Doppler USG of the right upper limb vessels showed right axillary vein thrombosis. Fine needle aspiration cytology and biopsy of the swellings in the right upper quadrant of breast showed infiltrating ductal adenocarcinoma of breast (figure 3). Two more swellings in the right infra axillary region and anterior part of right axilla showed metastaic deposits of infiltrating ductal adenocarcinoma on aspiration. Axillary nodal biopsy also showed metastatic deposits of poorly differentiated adenocarcinoma.

Contrast enhanced MRI of breasts showed lesions on her both breasts. Contrast enhancement CT Scan of lung and head showed evidence of metastatic lesions.

With these findings, a diagnosis of ductal infiltrating carcinoma of the right breast with metastasis to the left breast, right axillary nodes, supraclavicular nodes, lingula of the left lung and brain with deep vein thrombosis of the right axillary vein was made.

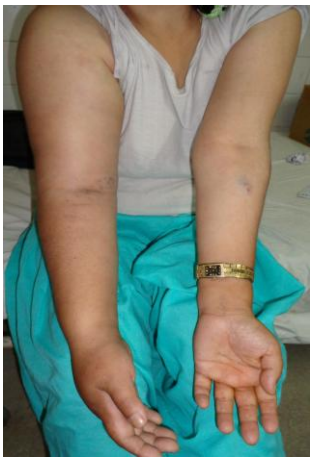

Figure 1. The right arm is edematous and swollen compared to the normal left arm.

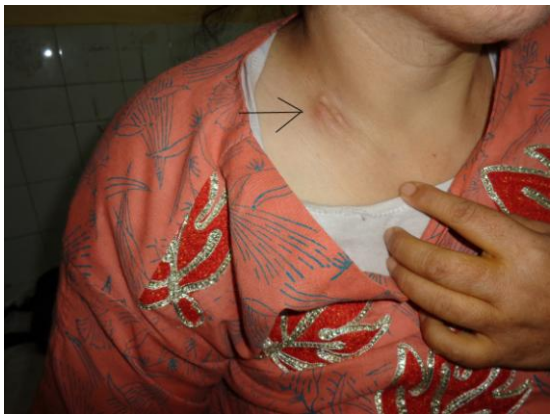

Figure 2. The black arrow in the figure points to the right supraclavicular lymph nodes enlarged due to metastatic spread.

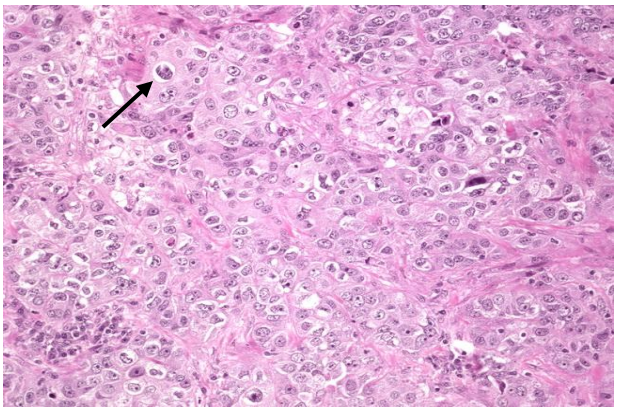

Figure 3. Histpathological picture of the breast lesion showing infiltrating ductal carcinoma.

Discussion

Malignancy induces a prothrombotic state, and cancer treatment is often complicated by either venous or arterial thrombotic events. Approximately 15% to 20% of all cancer patients develop thrombosis during the course of the disease. The incidence of cancer-related thrombosis varies according to the primary site, and patients with gynecological and breast cancers are at higher risks of developing venous thromboembolism (VTE) compared with the general population (1). The underlying pathogenetic mechanism is complex and involves the activation of a coagulation cascade, the failure of physiological anticoagulant agents and the destruction of vascular endothelium either by tumor cells or novel therapeutic interventions.

Breast cancer is the most common type of malignancy in the female population, and 1% of patients experience complications by thromboembolic events during the course of the disease (2). The thromboembolic event occurred before the diagnosis of cancer in the current patient. This is a rare event that has been reported only rare times, in one case bilateral inflammatory breast cancer was diagnosed for an extensive brachial–axillary–subclavian thrombosis in a 54-year-old female (3). The current case was apparently less dramatic, from a clinical point of view, in comparison to the previous case, and therefore was more insidious because it concealed a severe disease.

Duplex scanning is highly accurate in diagnosing acute symptomatic deep vein thrombosis in the upper and lower extremities and represents the first method of choice for the referring physician to either confirm or exclude DVT and to follow-up this condition during and after treatment (4). It is a convenient, safe and quick exam, and most physicians prefer it to other methods when faced with patients presenting with limb swelling.

The standard treatment regimen for thrombotic events consists of an initial phase with unfractionated heparin (UFH) or low molecular-weight heparin (LMWH), followed by a long-term phase with vitamin K antagonists (VKA). This two-phase treatment approach provides an immediate anti-coagulant effect while waiting for VKA action. Multiple randomized trials have confirmed that LMWHs are at least as efficacious as UFH in reducing recurrent thrombosis, bleeding complications and 3-month mortality; they also appeared to have an advantage against coumarin anticoagulants in cancer patients (5).

In a cancer patient population, warfarin is associated with increased risk of bleeding and recurrent VTE. Moreover, several other problems, such as thrombocytopenia, medication, invasive procedures, infections, malnutrition, and hepatic dysfunction, may influence the anticoagulant therapy and lead to closer coagulation monitoring; often, it leads to treatment discontinuation (6). In conclusion, this case highlights the procoagulant state of malignancies and it is important to remember that though rare, breast malignancies can present as deep venous thrombosis. This case also highlight the early and aggressive evaluation of any breast discharge to rule out carcinoma of the breast.

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