



## CASE REPORT

# Axillary Web Syndrome: What the Radiologist Needs to Know

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### Keywords

Axillary web syndrome, Cording, Breast, Post-operative

A 60 yr African American female was called back from her annual screening mammogram for an asymmetry in the upper outer quadrant of the left breast on the MLO view. Ultrasound revealed a 1.7 cm irregular hypoechoic mass with indistinct margins. Additionally multiple sub-centimeter non-contiguous hypoechoic satellite masses extended towards the nipple. One axillary node showed focal cortical thickening. Subsequent biopsy of the 1.7 cm mass and most anteriorly located satellite mass showed invasive lobular carcinoma. FNA of the lymph node was negative. Contrast enhanced breast MRI was performed for staging, and in addition to the left breast known malignancy, showed a 0.8 cm irregular enhancing mass with indistinct margins and persistent kinetics. Second look right breast ultrasound revealed a correlating irregular hypoechoic mass which was biopsied with results of Thewith left multifocal cT1cN0M0 invasive lobular carcinoma.

Axillary web syndrome (AWS) may present in the early postoperative period after of sentinel lymph node biopsy or axillary lymph node dissection. Local inflammation from lumpectomy or mastectomy sites may also cause AWS [1-3]. Also known as “cording”, it presents as a single or multiple “cords” of tissue under the skin that become palpable, painful, and may limit range of motion with shoulder abduction [1-4].

Although axillary web syndrome is not described in the radiology literature, it is important that breast imagers become familiar with this condition since diag-

nostic patients may present with pain caused by AWS. The clinical incidence is estimated at approximately 32% of cases, ranging from 20% after sentinel lymph node biopsy and 72% after axillary lymph node dissection [1,5]. Many radiologists may not be familiar with the condition because there are no studies which have shown that medical imaging can demonstrate the origin or presence of the AWS cords. In fact it has been shown that ultrasound reveals no structure or abnormality that can indicate the diagnosis of AWS [6]. However, ultrasound may still play an important role in these patient by excluding other pathology.

This condition is diagnosed clinically with physical exam revealing a web of palpable, cord like structures typically occurring several days to several weeks after surgery although it may present later [1,2,7,8]. In some cases the cords are not palpable, but the patient will endorse symptoms of pain and tightness while raising the arm [9]. The cords usually start at the surgical site in the axilla and may extend down the medial arm to the antecubital fossa and even into the hand. Some cases may present with cording extending down the chest wall into the abdomen wall [2,7,10].

The etiology of AWS is not completely understood. Most experts believe it may be caused by temporary changes in local vascular or lymphatic systems. Several studies of dissected cords have shown thrombosed and dilated lymphatics and superficial veins. For this reason AWS may be considered a variant of Mondor’s disease, which is a superficial thrombophlebitis presenting with a palpable cord on the breast [2,11-12].

AWS can be especially problematic if it happens before or during radiation therapy since the patient is

required to lift the arm above the head. AWS usually resolves spontaneously within 3 months and therapy has been shown to be minimally effective [3,7,8]. Patients may perform exercises that gently stretch the cords and improve range of motion. Patients may also be referred to therapist who using different myofascial release techniques. An audible pop may be heard if a cord breaks during stretching.

This case report provides educational format for presenting a common condition that radiologist may seldomly encounter. However a thorough understanding of AWS will inspire confidence in both patient and referring clinicians.

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