

A Rare Case Report of Siliconoma in Contralateral Axillary Lymph Node After Silicone Implant Rupture

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Abstract: *Breast reconstruction with silicone implants has become very popular after mastectomy in breast cancer patients. Rarely implants rupture and leak may spread to toipsilateral axilla causing silicone lymphadenopathy. We present a rare case where silicone implant leak was complicated by axillary lymphadenopathy to the contralateral side. This rare phenomenon occurs due to the presence of aberrant lymphatic channels. Understanding the pathophysiology of this condition can enrich the discussion about contralateral axillary metastasis (CAM) in breast cancer, and if they should be considered a locally advanced disease rather than metastatic disease.*

Keywords: Breast Cancer, Silicone, Implant, Siliconoma, Contralateral Lymphadenopathy

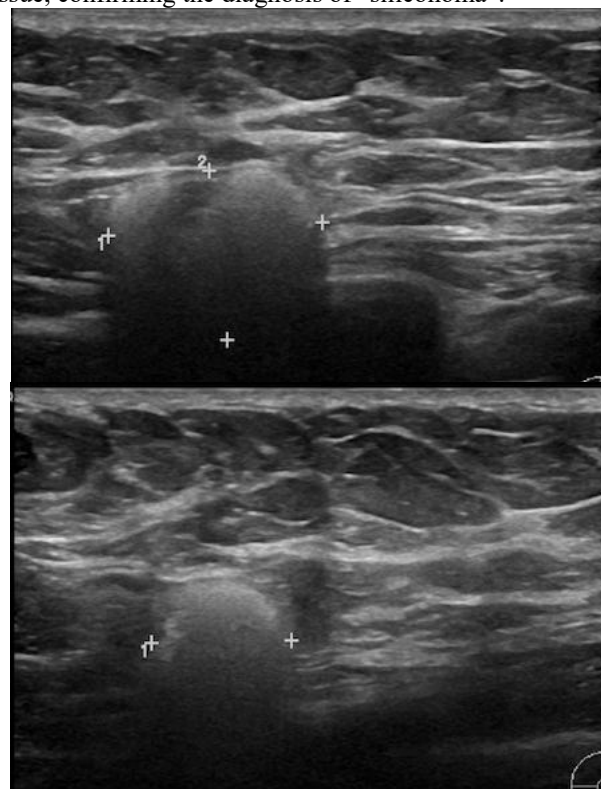
1. Introduction

The first breast augmentation with silicone implant was performed in 1962 [1]. Since then breast augmentation with implants has become one of the most popular surgeries in cosmetic and oncologic fields. In few cases silicone implants can be complicated by rupture and leak. Ipsilateral silicone lymphadenopathy has been documented in few studies post implant leak [2]. In this report we present a rare case of silicone spread to the contralateral axillary lymph node post mastectomy and reconstruction with silicone implant. The purpose of this report is to present a case that may support the argument that Contralateral Axillary lymph node metastasis (CAM) in breast cancer maybe more appropriately considered local disease and not metastatic spread based on our case's pathophysiology finding and the previous literature.

2. Case Summary

A 74 years old lady who is known hypothyroid and hypertensive on antihypertensive medications and thyroid hormone replacement, was diagnosed with right invasive lobular carcinoma 15 years ago and was treated with modified radical mastectomy and reconstruction with latissimusdorsi flap and silicone implant. This was followed by adjuvant hormonal treatment, but she did not receive any adjuvant chemotherapy or radiotherapy. She presented to the emergency department complaining of pain and softening in her right breast. On physical exam, there were changes in the contour of her right breast and it was clear that the right breast implant had ruptured. The left breast exam was normal but she was found to have an enlarged left axillary lymph node. The lymph node was firm, smooth, mobile and not tender. Left breast ultrasound showed normal breast without any suspicious intra-mammary lesions. Ultrasound of the axilla identified a 1.2 x 1.8 x 1.4 cm well-circumscribed, oval, hyperechoic lesion that demonstrated posterior shadowing, but no signs of internal vascularity [figures 1 & 2]. This was consistent with a lymph node

containing silicone. An MRI was subsequently performed; and it showed a normal left breast with no enhancing lesions and confirmed the presence of intracapsular and extracapsular leak from the right breast implant as well as the presence of one abnormal looking lymph node in the left axilla. The patient underwent surgery to remove and replace the ruptured right sided implant and to excise the palpable abnormal looking left axillary lymph node. Histopathological examination of the node did not find any suspicious atypical cells for carcinoma, it revealed the presence clusters of silicone containing histiocytes scattered through lymphatic parenchyma and replacing lymphoid tissue, confirming the diagnosis of "siliconoma".



Figures (1&2): US showing the abnormal hyperechoic left silicone containing lymph node

3. Discussion

In this report, an unusual and interesting case of a patient who had silicone spread to the contralateral axillary lymph node after a right sided implant rupture is presented. Silicone axillary lymphadenopathy due to leakage from silicone breast implants is a rare occurrence. In the largest study about this topic, Zambacos et al reviewed 29 articles with total number of 175 patients. Most of these studies were single case reports, and the incidence of this condition hasn't been published yet (2).

To the best of our knowledge, there have been only 3 case reports about silicone migration to the contralateral axillary lymph nodes (3-5). The pathophysiology of this rare condition involves migration of silicone particles through aberrant lymphatics to the contralateral axillary nodes, which leads to granulomatous foreign body reaction and enlargement of these nodes consequently. Factors that lead to aberrant lymphatic flow include prior breast or axillary surgery or irradiation, bulky tumor in breast or heavy burden disease in the ipsilateral nodes (6-7). Our presented case here and the few published similar cases indicate that involvement of the contralateral axillary lymph nodes can happen due to local spread via lymphatics and not necessarily the hematogenous route. This was evident when histopathological examination of the involved nodes revealed silicone particles that migrated via lymphatics from contralateral breast. The implications of these findings maybe important. After treatment of breast cancer, 3.6% to 6% of patients present with contralateral axillary lymph nodes metastasis (8). According to the AJCC staging manual, metastasis to contralateral axillary nodes are considered stage IV disease even in the absence of distant organ metastasis such as bone, liver or lung. Studies have shown that patients with CAM have a better prognosis than patients with distant stage IV metastatic disease (9-11). Therefore, an argument can be made that CAM should be classified as locally advanced disease rather than metastatic disease. Having those patients declared metastatic will render them candidates for only palliative treatment options. Further studies are needed to support this reasoning.

4. Conclusion

In this case report we present a rare phenomenon of contralateral axillary lymphadenopathy post mastectomy and reconstruction with silicone implant. Surgical excision and pathological examination confirmed the presence of silicone in the involved lymph node. The pathophysiology of this condition can contribute to the discussion and support the argument that breast cancer with CAM should be considered an advanced local but not metastatic disease. Further studies are required to support this theory.

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Author Profile



Dr. Ali Samkari was born in Jeddah, Saudi Arabia in 1981. He graduated with Honours from King Abdulaziz University medical school in 2006. He pursued General Surgery training at McGill University in Montreal Canada, where he successfully completed the Canadian board in general surgery in 2015. He did his fellowship training in General surgical oncology at McGill University too with focus on breast oncology and soft tissue sarcoma, and obtained the Royal College of Physicians and Surgeons Certificate in General Surgical Oncology in 2017. Currently Dr. Samkari holds an academic position in the department of General Surgery department and surgical oncology unit at King Abdulaziz University and is member of the undergrad education and residency-training committees.

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