

Answer

Leakage of Silicone Gel Implant

Repeated CT of the chest (Figure 1) revealed evidence of an enlarging, ill-defined, 8.2 × 4.0-cm subpectoral mass lateral to the left breast implant, blending with left pectoralis minor and serratus anterior muscles with evidence of leak from the silicone implant. There was no evidence of suspicious lymphadenopathy. Positron emission tomography (Figure 2) showed increased intensity around the implant due to an inflammatory reaction to leakage of the implant. The absence of clinical or radiological lymphadenopathy also rules out the possibility of tumor recurrence or sarcoma. The patient underwent implant removal; there was intraoperative evidence that the mass contained silicone gel around the breast expander that had ruptured, and there was no evidence of recurrence at the surgical bed.

Leakage of silicone gel implants is a common occurrence, with studies indicating an average implant life span of 13 to 15 years.^{1,2} Implant rupture can be intracapsular or extracapsular.³ Intracapsular rupture is more common and mostly unnoticed because of the fibrous capsule that keeps the free silicone in place. Extracapsular rupture with silicone gel migration has been reported at different locations, including the upper extremity, chest wall muscles, axilla, and back.⁴⁻⁶ Our patient presented with extracapsular rupture with an enlarging subpectoral and infraclavicular mass. The incidence of implant rupture is approximately 2 implants per 100 implant-years, with an estimated 10-year survival of 83% to 85%.⁷

Positron emission tomography is an advanced imaging tool for diagnosis, staging, and restaging of breast carcinoma. However, fludeoxyglucose F18 uptake in infection and inflammation is not unexpected because fludeoxyglucose F18 is not a cancer-specific tracer. It has been reported that fludeoxyglucose F18 uptake in the breast can be caused by infectious or inflammatory mastitis that mimics malignant disease.⁸

As reported by Hardt et al,⁹ a retained capsule is a reservoir of implant-related foreign material that can calcify or lead to a persistent serous effusion. Foreign-body granulomatous reaction to silicone in lymph nodes is often confused with carcinoma recurrence.¹⁰

Accepted for Publication: May 1, 2009.

Correspondence: Emad Kandil, MD, Division of Endocrine and Oncologic Surgery, Department of Surgery,

Tulane University School of Medicine, 1430 Tulane Ave, SL-22, New Orleans, LA 70112 (ekandil@tulane.edu).

Author Contributions: *Study concept and design:* Alabbas and Kandil. *Acquisition of data:* Wassef, Chiu, and Kandil. *Analysis and interpretation of data:* Wassef and Kandil. *Drafting of the manuscript:* Wassef. *Critical revision of the manuscript for important intellectual content:* Chiu, Alabbas, and Kandil. *Administrative, technical, and material support:* Alabbas and Kandil. *Study supervision:* Kandil.

Financial Disclosure: None reported.

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Submissions

Due to the overwhelmingly positive response to the Image of the Month, the *Archives of Surgery* has temporarily discontinued accepting submissions for this feature. Requests for submissions will resume in January 2011. Thank you.