Siliconoma secondary to ruptured breast implants has been reported in multiple body sites. The sensitivity of physical examination for detecting silicone implant rupture may be as low as 30%, although the diagnosis is easier when capsular contracture is present.

Silicone leak can remain confined to the breast or spread to regional lymph nodes and even to remote organs where it leads to foreign body inflammation and sometimes mimics neoplastic disorders on imaging studies.

**CASE REPORT**

A 30-year-old female patient with history of gluteal hypoplasia, who rejected gluteal augmentation with autologous fat transfer, underwent gluteal augmentation using silicone implants. Two 300-cm³ Silimed silicone buttock implants were used. An intramuscular pocket was created to insert the implants. Closed suction drains were used on each side and taken on postoperative day 5 when their output was below 30 cm³/24 h. Prophylactic antibiotic treatment with a third generation cephalosporine was given for 7 days. One month after surgery, the patient started to feel induration of the right buttock. Four months after surgery, after sleeping, the patient developed bruising around her right buttock and dark pigmentation in the sacral region.

The patient presented for evaluation, and at physical examination, enlarged bilateral inguinal lymph nodes were noticed. No systemic signs or symptoms were noticed. Ultrasound examination did not reveal any fluid collections or structural problems with the implant. She was scheduled for a biopsy on her left inguinal nodes (4 mo after her initial surgery). A 2-cm enlarged lymph node was sent to pathology where it was reported as a sinusoidal congestion, amorphous material with abundant foamy macrophages and giant multinucleated cells, findings consistent with granulomatous lymphadenitis due to foreign material, probably silicone (siliconoma).

Revision of the right buttock implant was performed, finding a 1.5-cm-thick capsule with no peri-implant inflammatory fluid and no macroscopic implant defects. Because of the risk of nerve and vascular damage, a capsulotomy instead of a capsulectomy was performed, and a new silicone 300-cm³ Silimed implant was inserted. The explanted implant was sent to the manufacturer for analysis.

One month after reintervention, the patient’s inguinal adenopathy, and pigmented lesion had resolved. The analysis of the implant revealed a microscopic silicone leak, and patient was accredited its insurance by the manufacturer.

**DISCUSSION**

Most of the literature case reports regarding silicone migration is from breast implants. To our knowledge, this is the first case report describing distant migration of silicone after gluteal implants.

There is increasing awareness of adverse effects and complications of implants containing silicone. Such complications mainly involve local reactions to silicone “sweating” from the implant (also known as gel bleed) and frank rupture. However, silicone leakage has also been associated with locoregional and systemic effects such as histiocytic necrotizing lymphadenitis, and even autoimmune and connective tissue diseases have been proposed.

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**SUMMARY:** We present the case of a 30-year-old woman who presented with enlarged inguinal lymph nodes and sacral hyperpigmentation 4 months after gluteal augmentation with silicone implants. Inguinal lymph node biopsy revealed granulomatous lymphadenitis due to foreign material. Upon right buttock implant revision, a 1.5-cm-thick capsule was noted with the absence of peri-implant inflammatory fluid and no macroscopic implant defects. Analysis of the implant by the manufacturer revealed a microscopic silicone leak. The patient’s recovery was uneventful, and her symptoms resolved shortly after her reoperation.
Commonly a fibrous capsule forms around the silicone implants, as we encountered with our patient. There is, however, in vivo and in vitro evidence that silicones may migrate into and through these capsules. On the other hand, rupture of the capsules may occur by accident or closed capsulotomy (squeezing until the capsule ruptures, a once-accepted method of disrupting a hard-tissue capsule), which may facilitate migration of silicones into the surrounding tissue.15–17

Once outside the envelope, silicones may disperse through soft tissue, lymph nodes, or vasculature to distant sites. Although this may happen, it does not need to occur. Singh et al.18 reported granuloma after the injection of silicone gel to gluteal implants. No enlarged lymph nodes were reported in this case, but there were systemic effects such as fever and leukocytosis.

Sinno et al. studied buttock augmentation until April 2015 from several database studies. They found that the most commonly reported complications in 2375 patients receiving silicone implants were wound dehiscence (9.6%), seroma (4.6%), infection (1.9%), and transient sciatic paresthesias (1.0%), with an overall complication rate of 21.6%.19 No distant silicone complications were reported using implants.

Daniel et al. studied the durability of gluteal implants in 380 patients. They found that in 70 reoperated on patients, only 2.8% presented with intact implants.20 Although there is no description regarding the other 310 patients, this is a high percentage of implant rupture. However, the cause of reoperation or clinical findings in these patients is not mentioned, hindering the ability to note important clinical characteristics to ruptured implants. They did, however, use nuclear magnetic imaging for the diagnosis. In our patient, because of economic issues, no magnetic resonance imaging was done.

The introduction of highly cohesive silicone gel implants includes a greater durability of overall shape and a reduction in the incidence of outer shell folding. The safety profile also improved with the greater degree of gel viscosity by limiting migration and locoregional spread of silicone gel after a compromised implant shell. Since the introduction of high cohesive gel implants in 1993, there
have been few cases of regional spread and axillary lymph node involvement after capsular rupture of a high cohesive gel implant. It seems that early implant failure is rare, but despite the increased gel viscosity, the potential for regional migration remains. Studies suggest the growing awareness for this phenomenon and emphasize the need for continued vigilance for signs and symptoms of migration despite the greater degree of gel cohesiveness.26

After surgical implantation, breast implants move about to a varying degree. The continuous presence of this gliding foreign object induces changes in the innermost layer of fibroblastic cells surrounding the implant, resembling normal joint synovium. These cellular changes receive the name of synovial metaplasia, and it has been especially reported around implants with textured surface.27

Granuloma as a reaction to silicone (sometimes referred to as siliconomas) will mainly be found after extracapsular rupture of an implant and after silicone injections with silicones. Such silicone granulomas may present as a tumor, sometimes some distance from the implant. In case of injections, the histological pattern seems to be numerous cystic spaces and vacuoles partly filled with silicones surrounded by a thin layer of fibrous tissue, with only minimal foreign body giant cell reaction. In case of extracapsular rupture, there may be many giant cells of the foreign body type, often containing silicones, and foam cells as well as lymphocytes.28–30

The association between silicone breast prostheses and systemic diseases is a highly controversial issue. Till now, most epidemiologic studies found no association between systemic diseases and silicone gel breast implants and a variety of connective tissue diseases,6 but despite the increased gel viscosity, the potential for regional migration remains. Studies suggest the growing awareness for this phenomenon and emphasize the need for continued vigilance for signs and symptoms of migration despite the greater degree of gel cohesiveness.26

CONCLUSIONS

Early microvascular rupture on silicone implants should be addressed or treated accordingly. Some signs that may suggest this entity may be skin color changes, capsular contracture, or distant lymphadenopathy as seen with our patient.

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