Migration of breast augmentation filler to the mediastinum mimicking lymphoma: A case report

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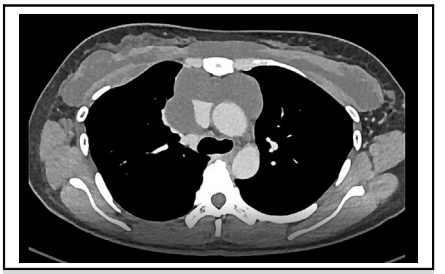


Chest CT showing migrated breast filler material in the mediastinum, mimicking lymphoma.

CENTRAL MESSAGE

We report the first case of breast augmentation filler migrating to the mediastinum. Breast filler migration to the mediastinum can mimic lymphoma.

Video clip is available online.

A 42-year-old patient who underwent bilateral subcutaneous breast augmentation filler injection 15 years ago was referred to us for an incidental finding of an enlarged mediastinal mass on radiograph of the chest. The radiograph of the chest had been done as part of her preoperative work up for an appendicectomy she was due to undergo for acute appendicitis.

She was unsure what breast filler material had been injected but knew that it was not silicon-based. A subsequent computed tomography scan of the thorax (Figure 1, Video 1) showed multiple enlarged and confluent mediastinal lymph nodes, which were concerning for lymphoma. They encased the superior vena cava, bilateral brachiocephalic veins, as well as the innominate artery and left common carotid artery. She was counseled about the possibility of lymphoma and underwent an ultrasound-guided biopsy of the right supraclavicular lymph node, which was also enlarged. Histologic examination showed amorphous basophilic material with foreign body giant cell reaction. Concerned about the possibility of lymphoma, she consulted another hospital for a second opinion, and magnetic resonance imaging of the breast (Figures 2 and E1, and Video 2) was performed, which showed that the previously injected breast filler material had tracked into the mediastinum. After discussion with the patient, she opted for the breast filler material to be removed from her breasts and mediastinum.

Through bilateral inframammary incisions, the breast filler material was expressed and washed out. This was followed by a right uniportal video-assisted thoracoscopic surgical evacuation of the mediastinal collection. Electrocautery was used to access the mediastinum through the right paratracheal area to evacuate the breast filler material (Video 3). Histologic examination of the mediastinal collection again showed basophilic granular material, similar to what was found in the breasts and her previous right supraclavicular lymph node biopsy. Postoperative radiograph of

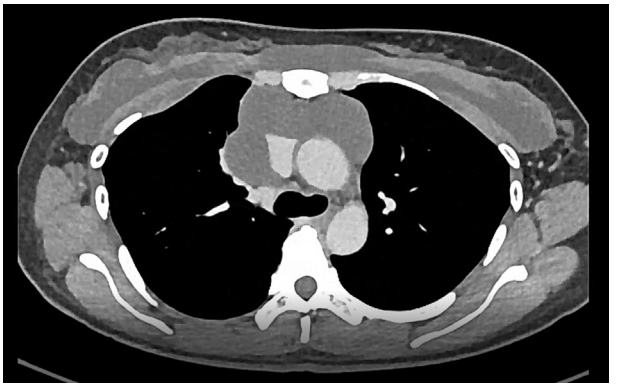
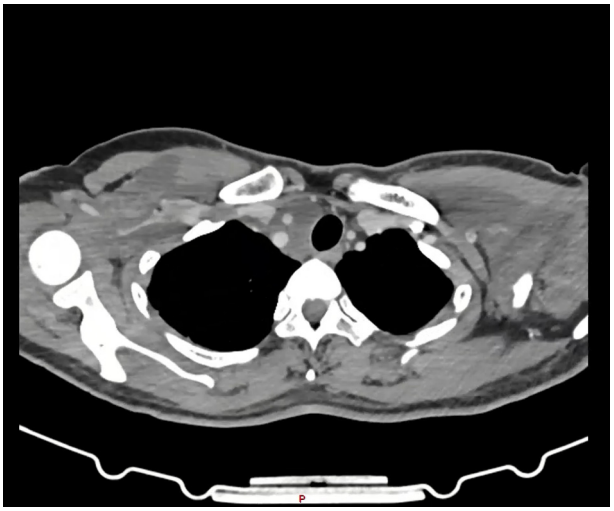
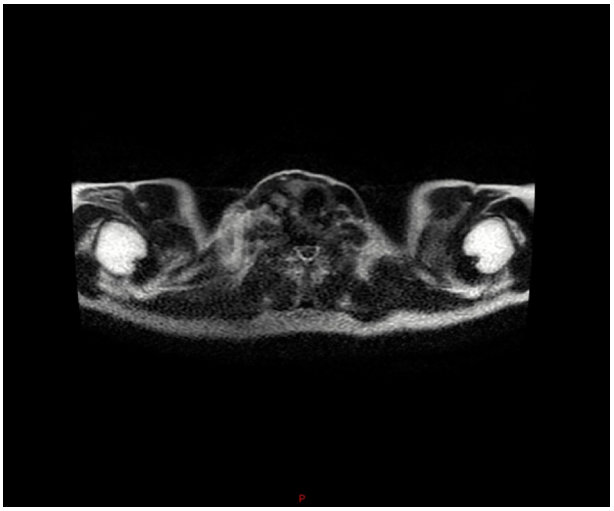


FIGURE 1. Computed tomography of the chest showing what appeared to be multiple enlarged and confluent mediastinal lymph nodes.



VIDEO 1. CT of the chest showing confluent "lymph nodes" in the mediastinum. Video available at: https://www.jtcvs.org/article/S2666-2507(22)00355-8/fulltext.



VIDEO 2. MRI of the breast showing the breast filler material communicating with the mediastinal collection and of similar signal intensity. Video available at: https://www.jtcvs.org/article/S2666-2507(22)00355-8/fulltext.

the chest showed a significant reduction in size of the mediastinal collection (Figure E2). The subject provided informed written consent for the publication of the study data.

DISCUSSION

Subcutaneously injected breast augmentation filler is gaining popularity as a cosmetic procedure. Unlike silicone implants, subcutaneously injected fillers have no barrier to contain the shape and stop migration.[1] There are case reports of filler material migrating to the inguinal area,[2] axilla, chest wall, abdominal wall, and peritoneum.[3] There has been one reported case of early migration of breast filler to the mediastinum—the material used as a breast filler was liquid silicone oil, and was discovered in the mediastinum 10 days after injection into bilateral breasts. This could have been due to direct instillation into the mediastinum during the procedure itself, or migration through a surgically created tract during the procedure.[4] We report the first case of delayed breast filler migration to the mediastinum.

This phenomenon is important for clinicians to note because it resembles lymphoma on a computed tomography scan of the chest. In the case of our patient, she was counseled to have a working diagnosis of lymphoma, which caused much anxiety. The radiologists we consulted were also concerned about lymphoma. After the patient sought a consultation at a second hospital, magnetic resonance imaging of the breast showed that her breast filler material had likely leaked into the mediastinum. The "enlarged lymph nodes" in the mediastinum were also of the same signal intensity as the filler material found in

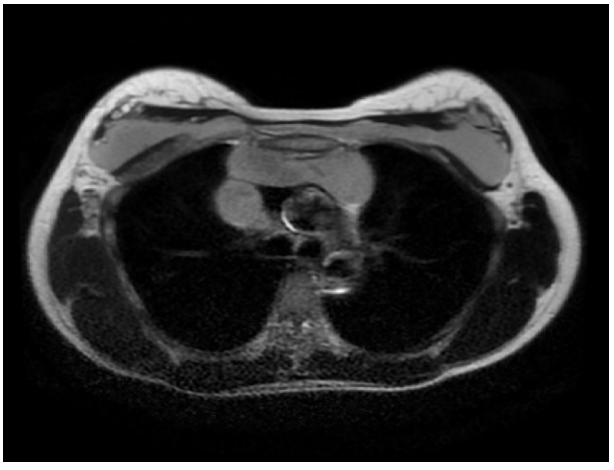
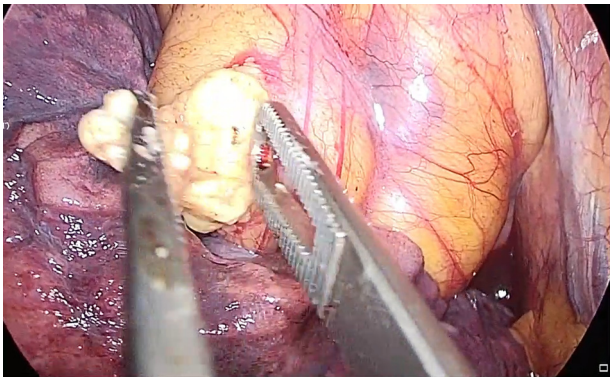


FIGURE 2. Magnetic resonance imaging of the breast in axial plane showing communication between breast filler material and the mediastinal collection.



VIDEO 3. Uniportal right video-assisted thoracoscopic evacuation of mediastinal collection. Video available at: https://www.jtcvs.org/article/S2666-2507(22)00355-8/fulltext.

the breast. Surgical evacuation of the mediastinal collection confirmed the mediastinal collection to be breast filler material.

We hope our clinical encounter can benefit other patients who are considering breast augmentation options, as well as clinicians who may see "mediastinal masses" in patients with a history of breast augmentation fillers.

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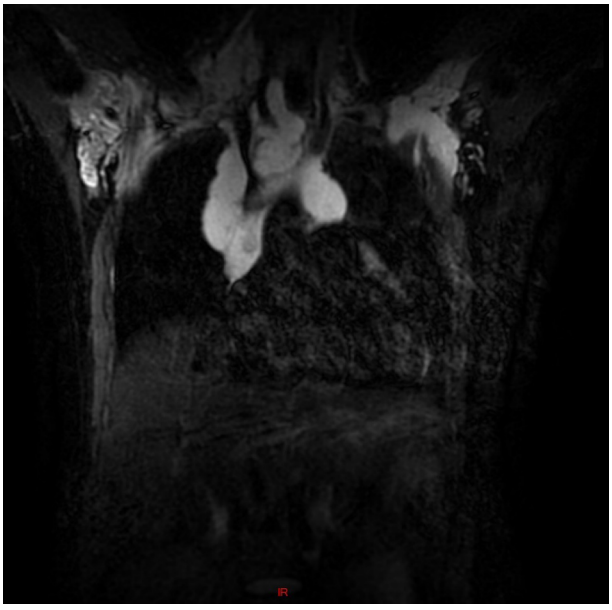

FIGURE E1. Magnetic resonance imaging of the breast, T2-weighted image in coronal plane.

FIGURE E2. Preoperative (*left*) and postoperative (*right*) radiographs of the chest showing a significant reduction in size of the mediastinal collection.