

Migration of Osteosynthesis Material in the Breast: About a Case

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ABSTRACT

The migration of osteosynthesis material into the breast after shoulder surgery is rare. We report an unusual case of migration of a screw nail into the breast after performing Latarjet's procedure to treat recurrent dislocation of the shoulder. A lumpectomy was performed to remove the nail. The operative course of the patient was simple. The histological analysis of the sample reported granulomatous mastitis of the breast.

Keywords

Breast mass, Osteosynthesis material, Migration.

Introduction

A breast mass in an older woman suggests breast cancer and leads to imaging tests. It is rare that such a mass corresponds to a foreign body such as an osteosynthesis material. Migration of osteosynthesis material is a common complication in the surgical treatment of fractures [1,2]. However, breast location is rare. We report an exceptional case of migration of osteosynthesis material into the breast after the Latarjet technique for recurrent shoulder dislocation has been performed.

Observation

Mrs. FN, 70 years old, is seen in consultation for a left breast mass that has been evolving for several years. The interrogation revealed shoulder surgery 33 years earlier for a recurrent dislocation of the left shoulder. It was an osteosynthesis by the Latarjet technique. The senological examination objectified a mass occupying the axillary extension of the left breast, without skin lesion, of firm consistency, with regular contours, 7×6 cm long axis, mobile with respect to the superficial plane and sensitive to palpation. The contralateral breast was without particularity. The axillary and supra-clavicular lymph node areas were free. The examination of the other devices was normal. Imaging examinations (mammography and ultrasound) had revealed a collector's focus surrounding a screw nail (Figure 1A). We examined the breast mass (left superior external quadrantectomy) (Figures 1B and

1C). The opening of the operating room revealed a 4 cm screw nail around which an inflammatory reaction developed (Figure 1C). The histological study of the surgical specimen reported granulomatous breast mastitis (Figure 1D). The postoperative consequences were simple.

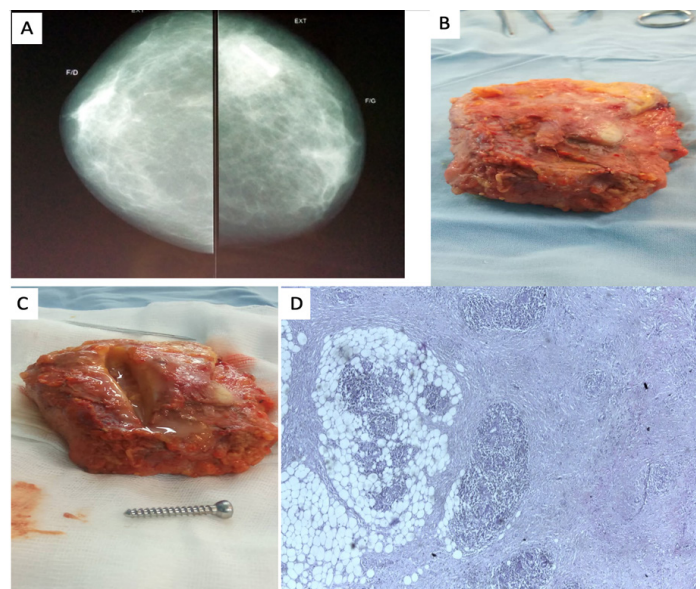


Figure 1: 1A: Mammography: Left external opacity in which a screw is highlighted - 1B: Inflammatory granuloma around the screw - 1C: Opening of the operating room to discover the screw - 1D: Inflammatory granuloma - HE* staining, magnification (x 40) - eosin hematoxylin staining.

Discussion

The migration of osteosynthesis material into the breast is an exceptional situation that we are experiencing for the first time in our practice. To our knowledge, our observation is one of the first clinical cases that alludes to the migration of osteosynthesis material into the breast. Instead, the literature refers to the migration of osteosynthesis material to other sites or organs, most often intraoperatively [2,3].

Ballas et al. report 19 cases of migration of osteosynthesis material after treatment of a sternoclavicular joint dislocation, 12 cases after treatment of an acromioclavicular joint dislocation, and 5 cases after surgical treatment for glenohumeral joint instability. The most frequent migration areas were pleuropulmonary, tracheobronchial, cervical and thoracic [4]. In the literature, a migration observation was reported after 20 years with a strapping placed to stabilize the sternoclavicular joint that was removed from the wall of the right ventricle by thoracotomy [5].

The complications usually described are hematoma, skin healing disorders, algodystrophy, nerve damage. Late migration is rarely described. The migration of an implant may be due to its fracture or bone resorption in its immediate periphery. Brooches can thus migrate along tissue planes, encouraged by muscle movements. Metal debris can also penetrate ships and migrate to remote sites.

The osteosynthesis screw undergoes 2 types of stresses. Shear stresses tend to break the screw at the screw-bone junction while axial stresses tend to tear it off. These stresses are due either to the movements of the limb or to a technical fault during screwing: excessive tightening leads to necrosis of the support area of the bone thread, the spring will be relaxed, the screwing stresses cancelled and the locking of the screw removed. This one will then unscrew.

As a reminder, the Latarjet technique is a minimally invasive technique that is performed through a small incision of 4 to 5 cm on the front of the shoulder. The intervention consists in making a section of the coracoid with the muscle that is inserted on it (coracobiceps). The shoulder joint is opened and cleaned, the coracoid (or

bone stop) is then positioned on the shoulder blade and fixed to the bone with two screws [6]. The technique has changed little since its first description. The major development is very recent and consists in performing this operation under arthroscopy [7].

In all cases, a breast mass justifies imaging examinations with mammography in the first line; the metallic material being easily recognizable.

The inflammatory reaction around the foreign body requires a surgical treatment that we have performed.

Conclusion

Migration of osteosynthesis material into the breast is rare but possible. To our knowledge, this is one of the first clinical cases that alludes to the migration of osteosynthesis material into the breast.

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