

# A Painful Axillary Lump: A Rare Case of Talc Granuloma Following Talc Pleurodesis

Bartholomew Forsyth<sup>1</sup>, Lydiya Thomas<sup>1\*</sup>, Jonathan Brodie<sup>2</sup> and Ratna Alluri<sup>1</sup>

<sup>1</sup>Department of Respiratory Medicine, Aberdeen Royal Infirmary, Aberdeen, Scotland

<sup>2</sup>Department of Radiology, Aberdeen Royal Infirmary, Aberdeen, Scotland

\*Corresponding author: Lydiya Thomas, Department of Respiratory Medicine, Clinic C, Aberdeen Royal Infirmary, Foresterhill Road, Aberdeen, Scotland, AB25 2ZN, Tel: 0044 1224 551865; E-mail: [lydiya.thomas@nhs.scot](mailto:lydiya.thomas@nhs.scot)

Received: May 15, 2023; Accepted: June 02, 2023; Published: June 10, 2023

## Abstract

A 58-year-old lady with a background of lung cancer, chronic obstructive pulmonary disease and secondary pneumothorax leading to talc pleurodesis presented with a painful right axillary lump. Initial suspicion was that of disease progression, but a CT scan revealed high attenuation material in the soft tissues of the right anterior axilla, consistent with talc material, resulting in an iatrogenic subcutaneous talc granuloma.

**Keywords:** *Pleurodesis; Talc; Iatrogenic disease; Granuloma*

## 1. Introduction

Talc pleurodesis is a universally accepted, commonly performed procedure to obliterate the pleural space to prevent recurrent pleural effusion or pneumothorax. It is a form of chemical pleurodesis and is found to be the most effective, inexpensive and available option [1]. It is shown to be as effective as intrapleural catheter in relieving dyspnoea [2]. Talc associated complications are reported including acute respiratory distress syndrome. Its use in the cosmetic industry has also led to reports of subcutaneous talc granulomas. We report an extremely rare case of talc granuloma out with the pleural space following talc pleurodesis.

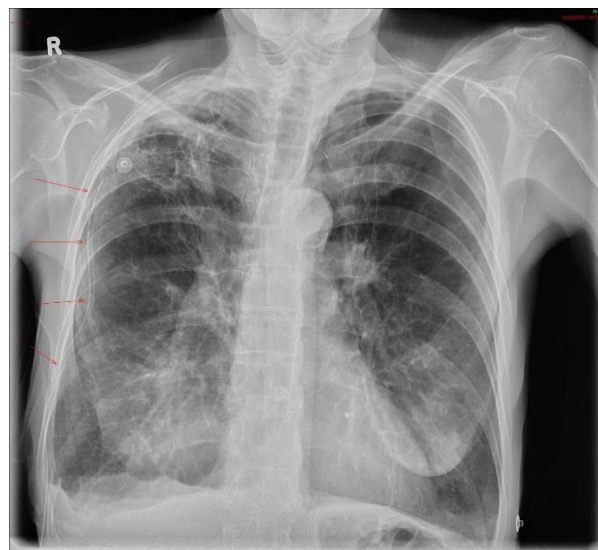
## 2. Case Report

A 58-year-old lady was admitted directly to palliative medicine following worsening pain control. She had started to struggle with increasing right sided chest wall pain of a few weeks' duration, as well as right sided neuropathic pain affecting the arm. She had a new painful lump in the right axilla close to the tail of the breast with increasing dyspnoea and malaise.

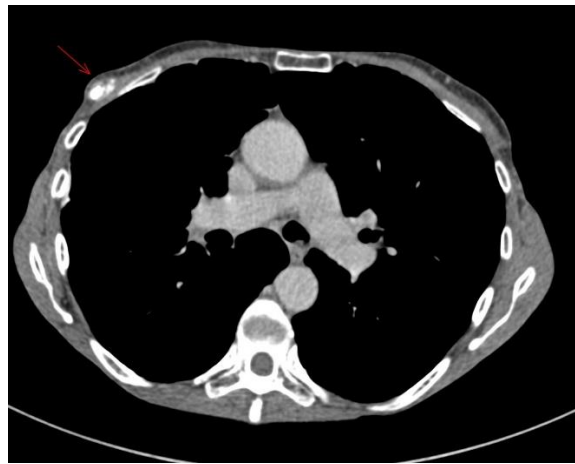
She has a background of T3N0M0 right upper lobe necrotic squamous cell lung cancer treated with radical radiotherapy three years ago. Other significant history includes severe Chronic Obstructive Pulmonary Disease (FEV1 - 29%) requiring long-term oxygen therapy. She was admitted two months previously with a right sided secondary pneumothorax which required three separate chest drains and pleurodesis. Talc was instilled partly via the second chest drain which resulted in severe pain. The drain was removed, and a third drain was done after which talc pleurodesis was performed successfully. A few days after discharge, the patient developed right axillary chest wall pain and a tender lump.

On assessment cardiorespiratory examination was unremarkable. A small tender mobile right sided 4 cm × 2.5 cm mid-axillary lump was palpated. No overlying skin changes were observed. She appeared cachectic with a BMI of 16.9.

Blood tests showed thrombocytosis and hyponatraemia in keeping with syndrome of inappropriate antidiuretic hormone (SIADH). The differential diagnoses was wide and included lymphadenopathy, metastatic deposit and abscess. The main concern was that of disease progression. CT thorax and abdomen was requested to characterise this further (FIG. 1a, b and c). It demonstrated linear high attenuation material in the soft tissue of the right anterior axilla, consistent with deposition of talc material along the course of a previous intercostal chest drain, resulting in an iatrogenic subcutaneous talc granuloma. There is talc in the pleural space seen more inferiorly which was not present on a previous scan four months ago. There was no evidence of cancer recurrence. She required an intercostal phenol nerve block for pain relief and her oral analgesics were optimised prior to discharge. She has ongoing outpatient follow-u. She continues to struggle with chest wall and unrelated neuropathic pain requiring opioids. There has been no clinical or radiological change in size of the lump.



**FIG. 1a. PA chest x-ray with intercostal drain projected over the lateral right hemithorax (red arrows). Chronic lung abnormality throughout.**



**FIG. 1b. Axial venous phase CT image in soft tissue window demonstrating a dense mass lesion in the anterior right axilla at the site of patient symptoms (red arrow).**



**FIG. 1c. Oblique coronal reformation from same CT as 1B, soft tissue window. Linear hyperdensity in the right axilla in keeping with extravasated talc along the course of the chest drain in 1A (red arrow). Some intra-thoracic talc in the lower hemithorax (white arrow).**

### **3. Discussion**

Talc is a common mineral, composed of hydrated magnesium silicate. It is an ingredient in various cosmetic products and is also used as a vehicle for specific therapeutic agents [2]. Talc was first introduced for use in pleurodesis in 1935 [3]. It acts as a sclerosing agent; when administered into the pleural space it causes an inflammatory response encouraging symphysis of parietal and visceral pleurae [4]. This eliminates the space between the layers, preventing further fluid or air accumulation.

The most common complications of talc pleurodesis include pyrexia and chest pain following administration. Some cases have been presented with acute respiratory failure or other systemic inflammation following talc pleurodesis [5]. Talc granulomas are an extremely rare complication following talc pleurodesis and have been described previously and usually present in the form of a pleural or mediastinal mass [1]. However there has only been one previous documented case, to our knowledge, of a

talc granuloma presenting out with the pleural space in the context of talc pleurodesis [6]. This case is also unique because the mass appeared much more rapidly, few days after the procedure, than the widely reported onset duration of months or years after the penetration of the talc in the dermis [7]. There is little guidance available detailing the management of talc granuloma. The patient had multiple chest drain insertions and the initial attempt at talc pleurodesis was unsuccessful due to drain dislodgement. She has ongoing pain and discomfort from this easily avoided medical error.

#### **4. Conclusion**

This case highlights the importance of ensuring intercostal drain patency and position prior to introducing talc slurry into the pleural cavity. Though rare, talc granulomas can appear as a consequence of talc pleurodesis leading to debilitating symptoms. Therefore, clinicians need to be vigilant of this potential though rare complication of bedside chest drain talc pleurodesis.

#### **5. Author Contributions**

- Bartholomew Forsyth: Conceptualization, methodology, data gathering, literature review, writing – original draft.
- Lydiya Thomas: Conceptualization, methodology, data gathering, literature review, writing – original draft.
- Jonathan Brodie: Conceptualization radiological images, project supervision, writing – review and edit.
- Ratna Alluri: Conceptualization literature review, project supervision, writing – review and edit.

#### **6. Conflict of Interest**

Nil.

#### **7. Funding**

None.

#### **8. Patient Consent**

Written informed consent was obtained from the patient in accordance with journal's patient consent policy.

#### **9. Key Clinical Message**

Talc granuloma following talc pleurodesis is an extremely rare complication but associated with debilitating symptoms. Therefore, clinicians should ensure chest drain patency and position prior to talc instillation for pleurodesis.

### **REFERENCES**

1. Davies HE, Lee YG. Management of malignant pleural effusions: questions that need answers. *Curr Opin Pulm Med*. 2013;19(4):374-9.
2. Ocak I, Dewan R. Talcoma: a diagnostic challenge in differential diagnosis of pleural masses. *Case Reports in Radiology*. 2015;2015:652760.

3. Bethune N. Pleural poudrage: a new technic for the deliberate production of pleural adhesions as a preliminary to lobectomy. *J Thorac Surg.* 1935;4(3):251-61.
4. Baiu I, Yevudza E, Shrager JB. Talc pleurodesis: a medical, medicolegal, and socioeconomic review. *Ann Thorac Surg.* 2020;109(4):1294-301.
5. Samadi Takaldani AH, Javanshir N, Negaresh M, et al. A Case of Acute Respiratory Distress Syndrome Following Pleurodesis With Talc. *Clinical Medicine Insights: Case Reports.* 2023;16:11795476231170196.
6. Jackson JW, Bennett M. Chest wall tumour following iodized talc pleurodesis. *Thorax.* 1973;28(6):788-93.
7. Vandemoortele T, Laroumagne S, Roca E, et al. Positive FDG-PET/CT of the pleura twenty years after talc pleurodesis: three cases of benign talcoma. *Respiration.* 2014;87(3):243-8.