

Thoracic splenosis masquerading as advanced lung cancer

Remtulla, Mohammedabbas; Drury, Nigel; Kaushal, Nazia; Trotter, Simon; Kalkat, Maninder

License:
None: All rights reserved

Document Version
Peer reviewed version

Citation for published version (Harvard):
Remtulla, M, Drury, N, Kaushal, N, Trotter, S & Kalkat, M 2016, 'Thoracic splenosis masquerading as advanced lung cancer', *Thorax*.

[Link to publication on Research at Birmingham portal](#)

Publisher Rights Statement:

Checked for eligibility: 03/10/2016. Copyright © 2016 BMJ Publishing Group Ltd & British Thoracic Society. All rights reserved.

Chest clinic: Images in thorax: Thoracic splenosis masquerading as advanced lung cancer. Mohammedabbas Remtulla, Nigel E Drury, Nazia A Kaushal, Simon E Trotter, Maninder S Kalkat. *Thorax* thoraxjnl-2016-209068 Published Online First: 5 September 2016 doi:10.1136/thoraxjnl-2016-209068

<http://thorax.bmj.com/citmgr?gca=thoraxjnl%3Bthoraxjnl-2016-209068v1>

General rights

Unless a licence is specified above, all rights (including copyright and moral rights) in this document are retained by the authors and/or the copyright holders. The express permission of the copyright holder must be obtained for any use of this material other than for purposes permitted by law.

- Users may freely distribute the URL that is used to identify this publication.
- Users may download and/or print one copy of the publication from the University of Birmingham research portal for the purpose of private study or non-commercial research.
- User may use extracts from the document in line with the concept of 'fair dealing' under the Copyright, Designs and Patents Act 1988 (?)
- Users may not further distribute the material nor use it for the purposes of commercial gain.

Where a licence is displayed above, please note the terms and conditions of the licence govern your use of this document.

When citing, please reference the published version.

Take down policy

While the University of Birmingham exercises care and attention in making items available there are rare occasions when an item has been uploaded in error or has been deemed to be commercially or otherwise sensitive.

If you believe that this is the case for this document, please contact UBIRA@lists.bham.ac.uk providing details and we will remove access to the work immediately and investigate.

Thoracic splenosis masquerading as advanced lung cancer

Mohammedabbas Remtulla, MBBS MRCS ¹

Nigel E. Drury, PhD FRCS(CTh) ¹

Nazia A. Kaushal, MBBS FRCR ²

Simon E. Trotter, MBBS FRCPath ³

Maninder S. Kalkat, MBBS FRCS(CTh) ¹

¹ Department of Thoracic Surgery, Birmingham Heartlands Hospital, Birmingham

² Department of Radiology, City Hospital, Birmingham

³ Department of Histopathology, Birmingham Heartlands Hospital, Birmingham, UK

Correspondence to: Mr Maninder S. Kalkat, Consultant Cardiothoracic Surgeon

Birmingham Heartlands Hospital, Bordesley Green East, Birmingham B9 5SS, UK

maninder.kalkat@heartofengland.nhs.uk, tel: +44 121 424 0732, fax: 0121 424 0562

Key words: Pleural disease, Systemic disease and lungs, thoracic surgery

Word count: 489

A 38 year old man presented with a history of flu-like symptoms and a persistent dry cough. He had been previously fit and well, other than a road traffic collision 20 years before in which he sustained bilateral pneumothoraces, left hemidiaphragm injury with herniation of the stomach into the left hemithorax and splenic injury. He therefore had undergone an emergency laparotomy, splenectomy and repair of the left hemidiaphragm. He was a non-smoker and denied contact with tuberculosis or asbestos. Physical examination was unremarkable other than a laparotomy scar.

Chest radiograph showed a large opacity behind the cardiac silhouette suspicious for primary lung cancer (Figure 1A). CT thorax and abdomen confirmed a 41mm soft tissue mass in the left lower lobe, closely related to the posterior aspect of the left ventricle with no clear fat plane, concerning for local invasion (Figure 1B). There were multiple other pleural-based nodules in the lower left hemithorax, measuring up to 21mm; no right sided pulmonary lesions or mediastinal lymphadenopathy were seen. The spleen was absent but further nodules were noted posterior to the left kidney, adjacent to the splenic flexure and at the pancreatic tail.

The MDT recommended biopsy of one of the nodules to establish a histological diagnosis. At VATS, the lower pleural space was obliterated by dense adhesions; after division of the adhesions and mobilisation of the lung, numerous dark brown, rounded lesions were seen scattered on the lung surface, diaphragm and mediastinal pleura, several of which were excised (Figure 2A). Histology showed nodules of congested but largely unremarkable viable splenic tissue, confirming the diagnosis of splenosis (Figure 2B); there was no malignancy.

Splenosis, the autotransplantation of splenic tissue following rupture or splenectomy, is rare, despite the relatively high incidence of splenic trauma. Ectopic splenic fragments implant onto a serosal surface, derive a local blood supply and develop into nodules of differentiated splenic tissue. It is most commonly found in the abdomen or pelvis with seeding of the peritoneum, omentum or mesentery; few cases of thoracic splenosis associated with traumatic diaphragmatic rupture have been reported. [1]

Thoracic splenosis usually presents as an incidental finding several decades after splenic trauma and rarely causes symptoms. Pleural-based nodules may be mistaken for an intrathoracic malignancy prompting invasive investigation with needle or VATS biopsy. If suspected, the diagnosis may also be made on 99m-Techetium heat-damaged erythrocyte scan which has a high sensitivity and specificity for splenic tissue. [2]

Splenosis is a benign condition and does not require therapeutic excision. However, whilst the histology resembles normal splenic tissue, it is still associated with reduced immune function as the residual volume and function is insufficient to confer protection against overwhelming post-splenectomy infection and therefore the need for immunisation and early prophylactic penicillin remains. [3]

In conclusion, thoracic splenosis should be considered in a patient presenting with asymptomatic left pleural nodules and a remote history of thoracoabdominal trauma, especially in the setting of known splenic injury and diaphragmatic rupture.

Contributors: All authors were involved in the management of the patient and composing the manuscript.

Competing interests: None declared.

Patient consent: Written informed consent obtained.

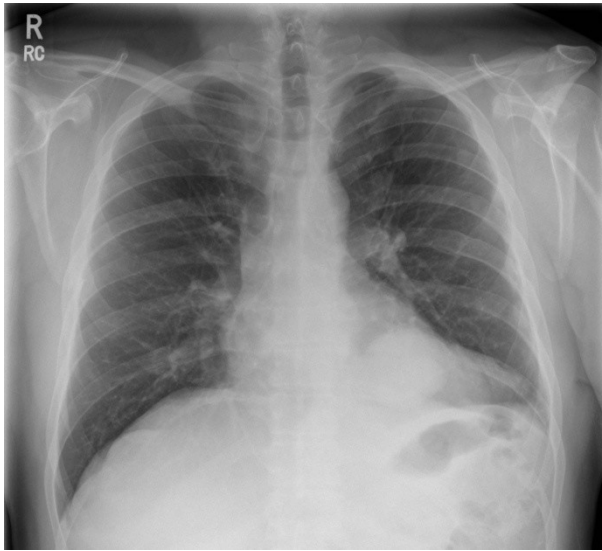
Figure 1. Chest radiograph showing a large mass behind the cardiac silhouette (A) and CT demonstrating multiple soft tissue pleural nodules in the left hemithorax (B).

Figure 2. Multiple pleural nodules were found at VATS surrounded by adhesions in the lower left hemithorax (A) and on microscopy, low power view of the excised lesions showed viable nodules of histologically normal encapsulated splenic tissue demonstrating red and white pulps (B).

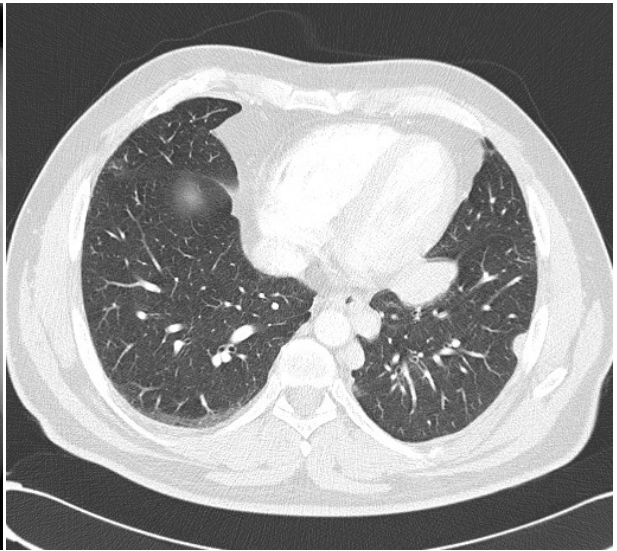
References:

1. Normand JP, Rioux M, Dumont M, et al. Thoracic splenosis after blunt trauma: frequency and imaging findings. *Am J Roentgenol* 1993;161:739-41.
2. Malik UF, Martin MR, Patel R, et al. Parenchymal thoracic splenosis: history and nuclear imaging without invasive procedures may provide diagnosis. *J Clin Med Res* 2010;2:180-4.
3. Connell NT, Brunner AM, Kerr CA, et al. Splenosis and sepsis: the born-again spleen provides poor protection. *Virulence* 2011;2:4-11.

Figure 1

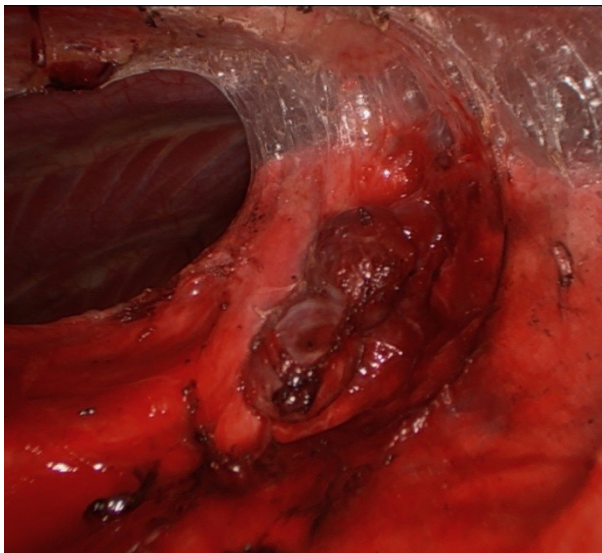


A

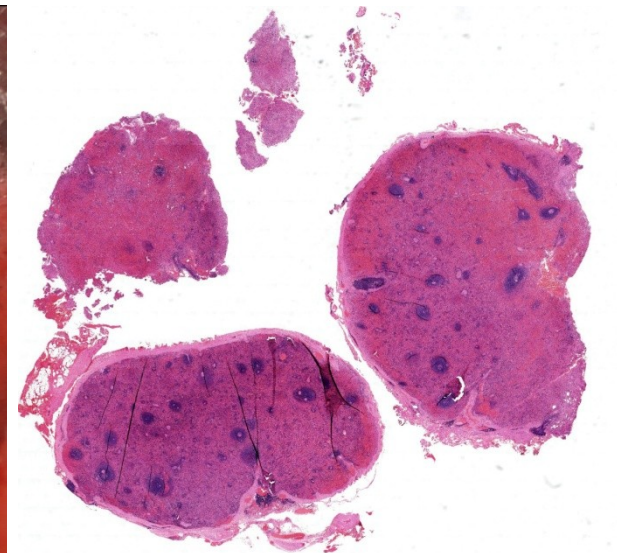


B

Figure 2



A



B