CASE REPORT

Non-small cell lung carcinoma metastasis to the anus

Ramya Gowri Dhandapani, Chinedum Anosike, Akash Ganguly

Department of Radiology,
Warrington and Halton
Hospitals NHS Foundation
Trust, Warrington, Warrington,
UK

Correspondence to
Ramya Gowri Dhandapani,
ramyagd@gmail.com

Accepted 17 April 2016

SUMMARY

A 70-year-old man presenting with a lung mass was investigated and treated with pneumonectomy for adenocarcinoma of the lung. He re-presented 3 months later with a large perianal abscess and mass. Subsequent investigations and biopsies showed disseminated metastases from the lung primary. Immunohistochemical staining confirmed the nature of the anal metastasis from the lung adenocarcinoma. Lung cancer is notorious for metastases, hence it is important to be aware of the uncommon modes of spread, which will help obtain early diagnosis and optimise treatment.

BACKGROUND

Lung cancer is the most common cause of cancer-related deaths worldwide. Lung cancer metastasis to the anal canal are extremely rare. We report a case of non-small cell lung cancer metastases to the anal canal presenting as perianal abscess.

CASE PRESENTATION

A 70-year-old man presented with complaints of on and off blood mixed with sputum. He was an ex-smoker for 2 years (50 pack years). Medical history included discoid lupus for 30 years, peripheral neuropathy related to lupus and previous transient ischaemic attack.

INVESTIGATIONS

Initial chest X-ray in March 2013 showed a left lung hilar mass. CT of the chest, abdomen and pelvis demonstrated a 6.6 cm left lower lobe lung mass obstructing a segmental branch of the left lower lobe bronchus, enlarged left hilar nodes, small left pleural effusion and an indeterminate 4 mm left upper lobe nodule. No distant metastasis was seen (figure 1). CT-guided lung biopsy of the mass was

Figure 2 ^{18}F -FDG PET CT showing intense tracer uptake in the left lower lobe tumour with SUV maximum of 28.7.

inconclusive as it showed fibrotic/inflammatory tissue. Subsequently, PET CT demonstrated a left lower lobe tumour with a SUV maximum of 28.7, staged as T2b N1 M0 (figure 2). The patient underwent a left pneumonectomy 2 months later. Histology of the resected specimen confirmed it to be an adenocarcinoma; pathological staging: pT3 N0 M0.

The postoperative period was uneventful. Due to difficult postoperative recovery and frailty, the patient was deemed unfit for adjuvant chemotherapy. Three months later, he represented to the clinic, feeling unwell, with severe perianal discomfort. Clinical examination revealed an ulcerated anal canal with a perianal abscess. EUA demonstrated a posterior anal canal mass lesion extending from 3 to 9 o'clock and invading the sphincter. Copious pus was drained from the left ischioanal abscess.

A follow-up CT of the chest and abdomen showed disseminated metastases in the right lung, abdomen and pelvis. MRI of the pelvis showed a locally advanced anal canal tumour with CRM involvement, staged T4 N0 M1 (figures 3 and 4).

Figure 1 CT of the chest with intravenous contrast demonstrating a 6.6 cm left lower lobe lung mass obstructing a segmental branch of the left lower lobe bronchus and enlarged left hilar nodes.

Figure 3 MRI of the pelvis: T2 weighted axial slice showing a locally aggressive mass lesion of the anal canal with extension into the perirectal fat.

To cite: Dhandapani RG, Anosike C, Ganguly A. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2016-214653

Figure 4 MRI of the pelvis showing a locally advanced anal canal tumour with circumferential resection margin involvement.

Biopsies from the anal mass demonstrated a totally ulcerated and necrotic invasive carcinoma with no obvious differentiation (figure 5). However, immunostains showed strong immunoreactivity to TTF-1 and CK7, whereas CK 20, PSA and p63 were negative. This was consistent with lung origin and therefore regarded as non-small cell carcinoma of lung primary (figures 6 and 7).

DIFFERENTIAL DIAGNOSIS

Anal cancer with perianal abscess.

OUTCOME AND FOLLOW-UP

The patient's clinical condition rapidly deteriorated and he died 2 weeks following the diagnosis of anal metastasis.

DISCUSSION

The most common sites of primary lung cancer metastases are lymph nodes, liver, adrenals, bone and brain. Anaplastic carcinomas and poorly differentiated squamous carcinomas of the lung have a high propensity for distant metastases. Gastrointestinal metastases from primary lung cancer are rare and have been reported with an incidence of 11.9% on autopsy

Figure 5 Biopsies of the anal mass demonstrating a poorly differentiated carcinoma exhibiting high cellular and nuclear pleomorphism, and atypical mitoses.

Figure 6 Immunostaining of the tumour cells shows positive reaction for TTF-1.

Figure 7 The tumour cells show a positive reaction for CK7. The overall appearance is consistent with poorly differentiated non-small cell carcinoma of primary lung origin.

studies.¹ The small bowel is the commonest reported site followed by the oesophagus, stomach and colon.^{1 2} Lung cancer metastasis to the anal canal are extremely rare with only seven cases reported in the literature so far.³⁻⁹ Primary anal tumour can mimic a perianal mass, haemorrhoid, metastases from the lung and prostate cancers.⁷⁻¹⁰ There have been two previously described cases of small cell type lung cancer metastasis presenting as perianal abscess, but our case was NSCLC of a primary adenocarcinoma subtype.^{7 8} High standardised uptake value on PET of the lung primary is considered a poor prognostic factor.¹¹ Most of these tumours are aggressive and usually metastasise to uncommon sites. When presented with histology of an undifferentiated tumour in the GI tract, immunostaining is helpful to diagnose the lung primary.¹²

Learning points

- ▶ Lung cancer metastasis can masquerade as perianal mass and abscess.
- ▶ A new mass in the GI tract in a patient with known lung cancer should be treated with a high index of suspicion for metastasis.

Acknowledgements The authors acknowledge Dr Jasna Krajacevic, Consultant Pathologist at Warrington Hospital, for providing the histopathology images.

Contributors RGD was involved in manuscript preparation and obtaining consent. All the authors contributed to the design, analysis and interpretation of, and acquisition for, this work. All the authors contributed to the intellectual content and were involved in the final approval of the version to be published. All the authors agree to be accountable for all aspects of the work in ensuring that questions related to accuracy or integrity of any part of the work are appropriately investigated and resolved.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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