Horner's syndrome: an incidental confounder

Introduction

This article reports a case of Horner's syndrome in a 42-year-old man who developed left-sided neck pain 2 months after sustaining a whiplash injury. He was treated with analgesics and referred to a physiotherapist. One month later, he complained of worsening neck pain and reduced sensation in the left arm and hand. He had mild drooping of the left eyelid. Magnetic resonance imaging showed a mass at the upper level of the thoracic spine. A biopsy revealed metastatic adenocarcinoma, with the most likely primary being in the lung. This case highlights the importance of early consideration of malignancy in the differential diagnosis of young patients with neurological symptoms, particularly when these symptoms seem disproportionate to a predisposing injury.

Discussion

Horner's syndrome results from an anatomical disruption of the oculosympathetic pathway that runs from the spinal cord at C8–T2 to supply the ipsilateral face and eye. It most commonly arises from any form of mass effect in the mediastinum, such as a Pancoast tumour, but it can arise from other pathologies and iatrogenic causes (Cavazza et al, 2005). It typically presents with the classic triad of partial ptosis, miosis and hemifacial anhidrosis.

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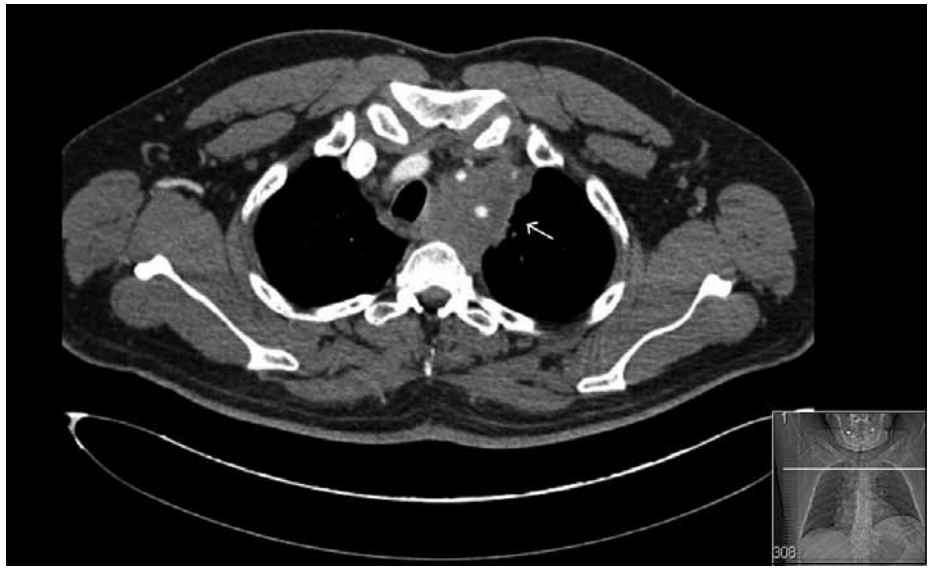
Pancoast tumours represent approximately 5% of all lung cancers (Shaw, 1984). Adenocarcinoma accounts for almost two thirds of cases, the rest are mostly squamous cell cancers, with less than 10% being large cell cancers and a few cases of small cell cancer (Detterbeck, 1997). The unique features of Pancoast tumours are the result of the anatomy of the region in which they occur. The tumour causes disruption of the second-order nerve fibres as they pass over the apex of the lung into the superior cervical ganglion. Nerves that supply the sweat glands of the face branch towards the superior cervical ganglion, so the presence of anhidrosis indicates a lesion inferior to the superior cervical ganglion. Although

Figure 1. Chest computed tomography indicating a large soft tissue mass in the left lung apex abutting the anterior pleura and mediastinum. The tumour infiltrates and extends along both the left common carotid and subclavian arteries. The trachea and oesophagus are deviated to the right.



Case Report

A 42-year-old man presented to his GP with a 1-month history of severe left-sided neck pain with shooting pains radiating down the left arm to the dorsum of the hand, exacerbated by cervical extension. He had no past medical history apart from smoking and sustaining a whiplash injury in a minor road accident 3 months earlier. He was prescribed simple analgesics and referred to a physiotherapist.

One month later, he complained of worsening pain and a 1-week history of reduced sensation in the left arm. The pain was recorded as 10/10 by visual analogue score. There was loss of sensation along the C5 dermatome and weakness of the left arm abductors. Apart from a mild left-sided ptosis, all cranial nerves were intact. A chest radiograph was clear, and a lateral neck radiograph showed a loss of normal cervical lordosis. He was diagnosed as having spondylosis and referred to a routine spinal diagnostics clinic. Magnetic resonance imaging showed narrowing of the C5 and C6 exit foramens and some mild cord flattening at these levels. In addition, an abnormal prevertebral soft tissue mass was seen at the upper level of the thoracic spine.

At the spinal diagnostics clinic, the patient reported a 13 kg weight loss associated with anorexia. Large, fixed jugulodigastric lymph nodes were seen in the right anterior triangle of the patient's neck, and the patient had developed hoarseness of voice and left-sided Horner's syndrome with ptosis, miosis and anhidrosis. Computed tomography showed a large apical tumour extending into the left supraclavicular fossa and deviating the trachea and oesophagus to the right (*Figure 1*). Histology with immunostaining of a biopsy revealed a metastatic adenocarcinoma, from a likely lung primary. The overall picture was that of a left apical Pancoast tumour, resulting in left-sided Horner's syndrome, C5 weakness and radiculopathy.

pathologically similar to other types of lung cancer, a Pancoast tumour usually presents with local rather than systemic manifestations (Detterbeck, 2003).

While most cases of Horner's syndrome are caused by a Pancoast tumour, it is important to gain a tissue diagnosis before commencing treatment, because the same mass effects can be caused by lymphoma (Rao and Robins, 2001), tuberculosis (Beshay et al, 2003) and other infections (Mitchell and Sorrell, 1992). BJHM

Beshay M, Roth T, Stein RM, Schmid RA (2003) Tuberculosis presenting as Pancoast tumor. *Ann Thorac Surg* **76:** 1733–5
Cavazza S, Bocciolini C, Gasparrini E, Tassinari G (2005) Iatrogenic Horner's syndrome. *Eur J Ophthalmol* **15:** 504–6
Detterbeck FC (1997) Pancoast (superior sulcus) tumors. *Ann Thorac Surg* **63:** 1810–18
Detterbeck FC (2003) Changes in the treatment of Pancoast tumors. *Ann Thorac Surg* **75:** 1990–7
Mitchell DH, Sorrell TC (1992) Pancoast's syndrome due to pulmonary infection with *Cryptococcus neoformans* variety gattii. *Clin Infect Dis* **14:** 1142–4
Rao RD, Robins HI (2001) Non-Hodgkin's tumor and Pancoast's syndrome. *Oncol Rep* **8:** 165–6
Shaw RR (1984) Pancoast's tumor. *Ann Thorac Surg* **37:** 343–5

LEARNING POINTS

- This case underlines the importance and value of a thorough history and examination.
- The initial presentation of an apparent single nerve root pathology is uncommon because multiple nerves within the brachial plexus and sympathetic chain are usually disrupted.
- The recent history of whiplash in this patient may have caused his initial symptoms of neck pain, but may also have deterred clinicians from considering a pathological mass effect in the early stages of presentation.
- Early consideration of malignancy as a differential diagnosis is important in young patients with neurological symptoms, particularly when these symptoms seem disproportionate to a predisposing injury.

A rare visual side effect of urinary tract infection in a patient with a suprapubic catheter

An 82-year-old patient presented to urology outpatients for a routine 6-week change of her suprapubic catheter. The urine collection bag was a deep purple throughout the bag, extending into the catheter tubing (*Figure 1*).

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Examination of the urine within the bag did not indicate the same level of colour change. Urine dipstick revealed the presence of leucocytes and nitrates and a pH of 8.5, with a diagnosis of purple urine bag syndrome. Subsequent urine microscopy, culture and sensitivity indicated the presence of *Proteus mirabilis*. The patient denied any systemic symptoms of a urinary tract infection so the suprapubic catheter was changed and the patient was discharged home with sensitive oral antibiotics.

Gross examination of the collected specimen revealed sediment which microscopy revealed to be phosphate crystals (*Figure 2*). Purple urine bag syndrome is a harmless side effect of a highly alkaline urinary tract infection which requires treatment. BJHM

Figure 1. Urine collection bag with tubing. The bag has a small volume of urine which was only mildly stained. The catheter itself was not this colour.

Figure 2. Microscopy of urine from bag at 10x magnification indicating the phosphate crystals deposited.