**SHORT REPORT**

**Strongyloides stercoralis** infection mimicking a malignant tumour in a non-immunocompromised patient. Diagnosis by bronchoalveolar cytology

E Mayayo, V Gomez-Aracil, J Azua-Blanco, J Azua-Romeo, J Capilla, R Mayayo

**CASE REPORT**

A 79 year old man from Zaragoza (Aragón, Spain), who had no associations with local endemic areas or a history of travel to other countries, had suffered from abdominal discomfort for the past 20 years. Several days before admission to our hospital, the patient showed effort dyspnoea, orthopnoea with progressive malleolar oedema, and pain in the right hypochondria. The electrocardiogram and eosinophil values were within normal limits, and no other changes were seen.

A chest radiograph was performed and revealed an irregular central pulmonary mass (fig 1). A bronchoscopy was carried out because of the suspicion of neoplasia, and showed narrowing in the left bronchi, with abundant brown exudates but no endobronchial tumour. Examination of cytological samples obtained from the bronchial aspirate and brushings revealed normal epithelial cells with scarce polymorphonuclear neutrophils, lymphocytes, foamy cells, and some filariform larvae measuring approximately 300–600 μm (fig 2).

All larvae showed an eosinophilic cuticle and a good state of conservation, so that their morphological characteristics could be perfectly assessed, particularly their oral cavity and the long, slim, and cylindrical oesophagus and notched tail. Based on this morphological information, the filariform larvae were identified as *S. stercoralis*. Therefore, the diagnosis was infection with *S. stercoralis* in the absence of immunosuppression, diabetes, alcohol abuse, and corticosteroid intake. The patient received specific treatment with thiabendazole (25 mg/kg, twice a day), which unfortunately lasted only two days because of the fatal outcome. The evolution of the disease was unfavourable, showing pulmonary oedema, haemorrhagic alveolitis, complete atelectasia in the left lung, and hepatic and renal insufficiency. Finally, the patient died as a result of cardiorespiratory failure. Necropsy was not authorised.

**DISCUSSION**

There are several pulmonary entities that could be confused with tumours, such as hamartoma, fungal infection, hydatid cyst, or other parasitic infections.

Although radiological techniques are important diagnostic tools, histology and cytology are the most accurate and specific methods for diagnosis. Sputum, bronchoalveolar lavage, transbronchial aspirates, brush biopsy specimens, or other parasitic infections.

Figure 1 Chest x-ray showing an irregular mass near the mediastinum.
open lung biopsy specimens are useful methods to diagnose all types of pulmonary pathology. Parasitosis of the lung can produce pneumonia, pneumonitis, or Löeffler’s syndrome, and rarely it can mimic a malignant tumour. Both migrating larvae and eggs may be found in the lung and therefore demonstrated in cytological samples, allowing a correct diagnosis.

“Pulmonary strongyloidiasis is seldom diagnosed until late in the course of the disease, which contributes to the increased mortality rate among immunocompromised hosts”

Strongyloides stercoralis is often found in the digestive tract and produces abdominal pain, epigastric tenderness, mild gastrointestinal symptoms, and non-specific diarrhoea—as was seen in our patient—in addition to non-specific inflammatory changes that can be seen in the endoscopic-pathological studies. However, widespread dissemination involving extraintestinal organs such as the lung, skin, liver, kidneys, spleen, heart, brain, and meninges has also been described. Pulmonary infection is often seen in the hyperinfection syndrome, and is also relatively common in the case of deep autoinfection in immunocompromised patients or those with cancer. However, our patient was immunocompetent and diabetes, malnutrition, alcoholism, and corticosteroids treatment were absent, so that initially a tumour was suspected. Our patient also lacked other predisposing factors such as achlorhydria, prolonged gastrointestinal transit, dementia, or being an institutionalised resident. Our patient only presented symptoms mimicking intestinal transit, dementia, or being an institutionalised resident. Our patient only presented symptoms mimicking intestinal transit, dementia, or being an institutionalised resident. Our patient only presented symptoms mimicking intestinal transit, dementia, or being an institutionalised resident.

We report a fatal case of Strongyloides stercoralis hyperinfection in an immunocompetent patient. A chest radiograph showed an irregular mass close to the mediastinum and interstitial infiltrates, but blood eosinophilia was not seen. Bronchoscopy was performed because of the suspicion of neoplasia, but cytological examination of the samples obtained from bronchial aspiration and brushing identified several filariform larvae. Thus, cytological study was essential for the diagnosis in this patient and is a very reliable method to diagnose lung parasitosis.

Take home messages

- We report a fatal case of Strongyloides stercoralis hyperinfection in an immunocompetent patient
- A chest radiograph showed an irregular mass close to the mediastinum and interstitial infiltrates, but blood eosinophilia was not seen
- Bronchoscopy was performed because of the suspicion of neoplasia, but cytological examination of the samples obtained from bronchial aspiration and brushing identified several filariform larvae
- Thus, cytological study was essential for the diagnosis in this patient and is a very reliable method to diagnose lung parasitosis

Authors’ affiliations

E Mayayo, J Capilla, R Mayayo, Service of Pathology, Hospital Universitario de Tarragona "Juan XXIII" and Department of Ciencias Médicas Básicas, Facultad de Medicina, Universidad Rovira y Virgili, 43201 Tarragona, Spain
V Gomez-Aracil, J Azua-Blanco, Department of Pathology, Hospital Clínico Universitario "Lozano Blesa" de Zaragoza, Zaragoza, 50009 Spain
J Azua-Romeo, Department of Pathology, Hospital Universitario "Miguel Servet" de Zaragoza, Zaragoza, Spain

Correspondence to: Dr E Mayayo, Servicio de Patología, Hospital Universitario de Tarragona, "Juan XXIII", C/Dr Mallafre Guasch, 4, 43007 Tarragona, Spain; ema@fmcs.urv.es

Accepted for publication 14 September 2004

REFERENCES


www.jclinpath.com


Strongyloides stercoralis infection mimicking a malignant tumour in a non-immunocompromised patient. Diagnosis by bronchoalveolar cytology

E Mayayo, V Gomez-Aracil, J Azua-Blanco, J Azua-Romeo, J Capilla and R Mayayo

J Clin Pathol 2005 58: 420-422
doi: 10.1136/jcp.2004.017756

Updated information and services can be found at:
http://jcp.bmj.com/content/58/4/420

These include:

References
This article cites 19 articles, 3 of which you can access for free at:
http://jcp.bmj.com/content/58/4/420#BIBL

Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Topic Collections
Articles on similar topics can be found in the following collections

- Clinical diagnostic tests (805)
- TB and other respiratory infections (74)

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/