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Lung mass in a short woman

R P Convery, A Carty, C R K Hind

A 26-year-old woman presented with a 6-week history of a dry cough and several recent episodes of scant haemoptysis. She admitted to mild exertional dyspnoea, night sweats and right-sided anterior pleuritic chest pain. A 20 lb weight loss was noted. She smoked 10 cigarettes daily (4 pack-years in total). She had been diagnosed as having Swyer's syndrome (a mosaic variant of Turner's syndrome with a Y chromosome present) at the age of 20 years following investigation for oligomenorrhoea. She had had a gonadectomy performed 4 years earlier and a skin biopsy confirmed a 45XO/46XY karyotype. She subsequently attended a Turner's syndrome clinic and received vitamin D preparations for a low bone mineral density. On admission vital signs were normal with a temperature of 37.3°C. She measured 152 cm and had a Turner's syndrome habitus with partial neck webbing, poor breast development and several naevi on the chest wall. She had poor dentition and halitosis. Two small lymph nodes were present in the right supraclavicular fossa. Air entry was reduced in the right hemithorax anteriorly, but no rales were audible. Laboratory data included a white blood cell count of $23.7 \times 10^9/l$ with a neutrophilia, slightly reduced serum albumin of 31 g/l, elevated globulins of 50 g/l and an erythrocyte sedimentation rate of 95 mm in the first hour. CA-125 was slightly elevated at 37 IU (normal 0–25). Her chest radiograph and thoracic computed tomography (CT) scan are shown in figures 1 and 2, respectively.

Figure 1 Chest X-ray

Figure 2 Thoracic CT scan

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Questions

- 1 What is the most probable diagnosis?
- 2 What diagnostic intervention would you undertake?

Answers

QUESTION 1

The most probable diagnosis is right middle lobe consolidation/lung abscess secondary to dental caries. The X-ray (figure 1) demonstrates a large mass involving the right middle lobe. The thoracic CT scan (figure 2) shows consolidation and cavitation of the right middle lobe with reactive lymphadenopathy of the pre-carinal region.

QUESTION 2

Fibre-optic bronchoscopy is indicated. This procedure revealed an inflamed right middle lobe orifice with impacted purulent secretions. Aspiration and lavage removed the mucus plug and released a large amount of foul-smelling secretions which grew *Streptococcus milleri* when cultured. The patient was treated with physiotherapy and appropriate antibiotics and made a full recovery. She was referred for dental treatment.

Discussion

Aspiration from the oropharynx is the most common cause of lung abscess, and is often associated with dental caries.^{1,2} *Streptococcus milleri* is probably the most common microbe found in lung abscesses. The foul smell of the secretions suggests anaerobic infection although none was cultured (a mixed growth is particularly common). The wide differential diagnosis of a cavitating lesion on a chest film is well described, but the age of the subject makes an infective process the most likely scenario.

The history of weight loss associated with the evidence of an inflammatory process should always raise the possibility of an abscess, even if there is no evidence of cavitation on the plain chest film (as in this case). Occasionally, a lesion appears solid on the plain film but cavitation is only visualised on CT scanning. The obstruction of the right middle lobe orifice makes the diagnosis more difficult because of the lack of sputum production or signs of consolidation.

The history of Swyer's syndrome is a 'red herring' in that there is no known risk factor for the development of a lung abscess in this condition. Swyer first described the condition in 1955 as a condition of pure gonadal dysgenesis with the karyotype 46XY.³ Turner's syndrome represents gonadal dysgenesis in its classical form but many chromosomal variants and mosaics are known, of which Swyer's syndrome is just one. These phenotypic females are at significant risk of developing gonadal tumours if there is a Y chromosome or a fragment of one present. Gonadoblastoma, dysgerminoma, and embryonal carcinoma have an incidence of at least 25% in XY karyotypes with the risk increasing with age.⁴⁻⁶

Malignancy is a possible diagnosis in this female given the history of palpable lymphadenopathy and CT visualised pre-carinal nodes, but a primary lung carcinoma would be exceptionally rare in this age group. A gonadal or mesenchymal tumour would be a distinct possibility, although the gonadal tissue had previously been surgically removed as a precaution.

The role of the bronchoscopy in this situation is to obtain bacteriological cultures whilst excluding inhaled foreign bodies and tumour obstruction. Bronchoscopy has also been used as a means to enter or place a catheter into an abscess cavity and using suction,⁷ although CT-guided procedures are now the treatment of choice.

In summary, this case demonstrates the risk of lung abscess formation secondary to poor dentition and highlights the use of the CT scan to show cavitation when the plain chest film does not. The trap in this history is looking for a more exotic condition in a rare syndrome.

Final diagnosis

Right middle lobe consolidation/lung abscess secondary to dental caries.

Keywords: lung abscess; dental caries; Swyer's syndrome.

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A child with multiple bony swellings

S Neshat Anjum, Dawar Abbas, A A Iraqi

A 5-year-old boy presented with multiple bony swellings around his knees, wrists, shoulders, and rib cage. He was in good general health and there was no history of trauma, but his father was concerned about increasing deformity of the child's knees and the gradual increase in size of the swellings around his wrists, chest and knees. On examination, there were bilateral multiple fixed bony outgrowths from the distal radius, medial side of lower femur, upper end of humerus and costochondral junctions. The child had mild genu valgum on the left side. There was no deformity or swelling of the fingers. Movements at the shoulder, hip and knee were within normal limits and there was no neurovascular problem. The father had similar bony swellings around his knees and shoulder but was not bothered about these because they were not growing and he had no functional problems. Plain X-rays of the knees, wrists and chest of the patient and a photograph of him and his father are shown in figures 1-4.

Figure 1 X-Ray of both knees

Figure 2 X-Ray of both wrists

Figure 3 X-Ray of the chest

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Figure 4 Photograph of the child and his father

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Questions

- 1 What are the radiological and clinical findings?
- 2 What is the diagnosis?
- 3 What are the prognosis and treatment?