

A pulmonary shadow after lobectomy: an unexpected diagnosis

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CASE REPORT

A 62-year-old man underwent a right upper lobectomy because of a recently diagnosed non-small cell lung carcinoma pT2aN0M0, stage IB. His medical history showed chronic obstructive pulmonary disease, Global Initiative for Chronic Obstructive Lung Disease (GOLD) classification 2 and a myocardial infarction in 2009. During the operation there were no complications. A few hours after the operation the patient could be extubated. Postoperatively, the patient had no complaints, nor were there any abnormalities on physical examination. His routine laboratory results showed slight anaemia (haemoglobin 7.0 mmol/l), a slightly decreased haematocrit level (0.32 l/l) and an increased level of C-reactive protein (88 mg/l). The chest X-ray one day after surgery showed a dense opacity in the upper zone of the right lung (*figure 1*). On the first day the pleural drain produced 1 litre of serosanguinolent fluid per 24 hours, gradually diminishing to 500 ml per 24 hours, with moderate air leak.

Figure 1. Postoperative chest X-ray day 2

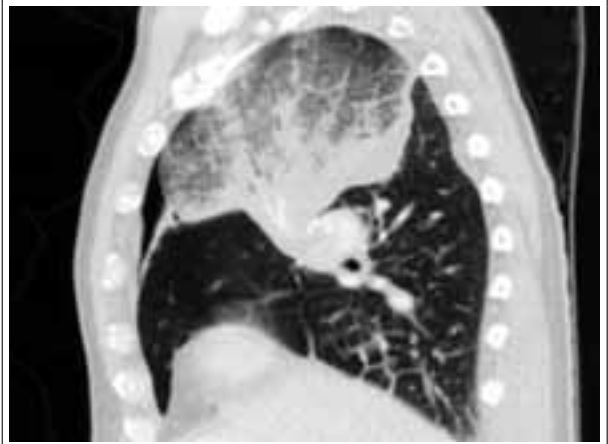


Dense opacity in the upper zone of the right lung, to some extent radiolucent with pleural lining.

Figure 2. CT thorax cross-section: tapered occlusion of the right middle lobe bronchus



Figure 3. CT thorax sagittal section: consolidation of pulmonary segment



Over the following days the patient developed fever and his C-reactive protein level increased (230 mg/l). His chest X-ray remained unchanged. We additionally performed a CT scan, shown in *figures 2 and 3*.

WHAT IS YOUR DIAGNOSIS?

See page 235 for the answer to the photo quiz.

DISCUSSION

The chest X-ray one day after surgery showed a dense opacity in the upper zone of the right lung with pleural lining (*figure 1*). The differential diagnosis included haematoma, pneumonia, atelectasis (due to sputum retention) and torsion of the right middle lobe. The CT scan four days later showed a tapered occlusion of the right middle lobe bronchus and a consolidation of a pulmonary segment. Bronchoscopy showed an occlusion in the right middle lobe bronchus two centimetres distally to its orifice. The occlusion could not be passed with a brush. Since a lobar torsion was suspected a re-thoracotomy was performed. It appeared that the right middle lobe was distorted and as a result, already necrotic. A lobectomy of the right middle lobe was performed. The patient had an uneventful recovery and was discharged eight days after the second operation.

Lobar torsion is a very rare complication after thoracic surgery. The incidence of lobar torsion after pulmonary resection in one large study was found to be 0.089%.¹ Mostly lobar torsion involves the right middle lobe after right upper lobectomy. The differential diagnosis of the previous condition includes haematoma, lobar pneumoniae and atelectasis, and can be quite difficult to distinguish. Physical findings are not specific to reach a diagnosis. Radiography and bronchoscopy may show specific findings.

Specific radiographic findings of lobar torsion include rapid opacification or serial positional change of the affected lobe.² Bronchoscopy may reveal an abnormally tight and obstructed orifice of the affected lobe. Postoperative follow-up with chest X-ray is most important for the correct diagnosis of a lobar torsion.

In most case reports resection is performed due to irreversible ischaemic change of the distorted lobe. In a few patients simple detorsion was carried out; however, this may lead to serious complications. If lobar torsion is suspected, exploratory thoracotomy should be performed without delay to prevent serious morbidity and mortality.³ In order to reduce the risk of lobar torsion the right middle lobe can be fixed to the right lower lobe, especially if the fissure is well developed.

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