initiation of therapy with losartan, or after potentiation of its effects by increasing con-
temporary diuretics, to detect a deteriora-
tion in renal function at an early stage before 
acute renal failure is established and dialysis 
required.

1 Johnston CI. Angiotensin receptor antagonists: focus on 
2 Ritz E, Koch M. Renal failure in diabetic neuropathy. In: 
Cameron S, Davison AM, Grunfeld JP, Kerr D, Ritz E, 
hypertension. In: Cameron S, Davison AM, Grunfeld JP, 

Note added in proof: Another case of 
losartan-induced azotemia has now appeared 
in print. It concerns a diabetic with no 
angiographic signs of transplant renal artery 
stenosis.

Spontaneous contralateral pneumothorax 
following pneumonectomy

JGH Hubbard, UU Nkere, NK Bhatnagar

Summary
A case of a spontaneous pneumothorax 
occuring three days post-pneumonecto-
my is presented. Difficulties in diagnosis 
and management are discussed.

Keywords: pneumothorax, spontaneous contralat-
eral pneumothorax

We report on a rare complication following 
pneumonectomy with potentially fatal conse-
quences.

Case report
A 65-year-old man underwent a routine left 
pneumonectomy for squamous cell carcinoma. 
His early post-operative recovery was unevent-
ful. His post-operative chest X-ray demon-
strated satisfactory accumulation of fluid in his 
pneumonectomy space and good expansion of 
his remaining lung (figure 1). On the third 
post-operative day, while undergoing chest 
physiotherapy, he suddenly developed a cough 
productive of copious, frothy, blood-stained 
sputum and became short of breath.

On initial examination he was found to be 
sweaty with a pulse of 100 beats/min, respira-
tory rate 30 breaths/min, blood pressure 179/
100 mmHg and oxygen saturation 96%. He 
became increasingly unwell and his oxygen 
saturation dropped to 77%. His jugular venous 
pressure was noted to be elevated on the right 
and he had reduced air entry on this side. A 
chest X-ray performed on the ward within 
minutes confirmed the clinical findings of a 
right pneumothorax (figure 2), the fluid level in 
his pneumonectomy space was unchanged 
from that mornings X-ray. He immediately 
 improved following insertion of a right-sided 
chest drain. Twenty-four hours later he devel-
oped subcutaneous emphysema, therefore a 
bronchoscopy was performed, demonstrating a 
healthy intact bronchial stump on the left side 
and a normal right bronchial tree. His sub-
cutaneous emphysema gradually settled. Tet-
tracycline pleurodesis was performed on three 
consecutive days. The chest drain was subse-
quently removed and chest X-ray showed no 
residual pneumothorax. He was discharged 
home on his ninth post-operative day.

Discussion
Contralateral pneumothorax following pneu-
monectomy is rare. Blalock reported four cases 
complicating 340 pneumonectomies and Har-
man reported one case in 351 pneumonectomies; other smaller series have not reported this complication.1-4 Of the handful of cases reported,1-7 the overall mortality approaches 50%. Mechanisms of pathogenesis include intra-operative damage to the contralateral mediastinal pleura and rupture of an emphysematous bullae/bleb. The majority of cases occur in the immediate post operative period. Delayed diagnosis is the usual cause for the high mortality, therefore a high index of suspicion is required if this mortality is to be reduced.

Conscious patients (as opposed to those in whom a pneumothorax occurs while under general anaesthetic) may present in a similar manner to those suffering a pulmonary embolus,3 typically complaining of difficulty in breathing, chest pain, cough and demonstrating a tachycardia and cyanosis. Our case presented with coughing followed by production of copious, frothy, blood-stained sputum and increasing shortness of breath. Acute bronchopleural fistula was therefore an additional potential diagnosis in this patient.

In order to prevent overflow of pneumonectomy space fluid into the remaining lung the immediate management of an acute bronchopleural fistula necessitates lying the patient on his operated side. Subsequently a chest drain ought to be inserted followed by the appropriate definitive procedure. The immediate management of an acute bronchopleural fistula clearly differs from that of a tension pneumothorax. Inappropriate needle thoracentesis on the remaining lung post-pneumonectomy could have serious consequences. The availability of immediate chest X-ray was therefore useful to confirm the diagnosis, however, such facilities are not always immediately available and a high index of suspicion must be maintained if the correct diagnosis is to be made and appropriate treatment instigated.

In the general population, spontaneous pneumothorax can be treated conservatively by expectant observation, aspiration, or chest drain insertion, with a recurrence rate of 30 to 50%.6 However, recurrence of a pneumothorax in this patient would be potentially fatal therefore such conservative measures alone are inappropriate. In this patient operative intervention was not feasible, therefore tetracycline pleurodesis, which is more effective than the above conservative measures at preventing long term recurrence,8 was carried out on three consecutive days.

Figure 2 Chest X-ray demonstrating a 50% right pneumothorax. The fluid level in the left pneumonectomy space is unchanged from figure 1

Summary/learning points

- contralateral pneumothorax is a rare and potentially fatal complication following pneumonectomy
- a high index of suspicion is required to make the correct diagnosis
- the differential diagnosis includes pulmonary embolus, acute bronchopleural fistula and tension pneumothorax
- chemical pleurodesis can be a simple and effective measure in cases with no major air leak

Spontaneous contralateral pneumothorax following pneumonectomy.

J. G. Hubbard, U. U. Nkere and N. K. Bhatnagar

doi: 10.1136/pgmj.73.856.107

Updated information and services can be found at:
http://pmj.bmj.com/content/73/856/107

These include:
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.

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/