

was no evidence of tuberculosis of the lung, bacilli being constantly absent from the sputum. The possibility of a pyopneumothorax subphrenicus was considered, but against this was the absence of any downward displacement of the liver and, in addition, the heart was displaced to the right, a sign which is said to be commonly absent in collections below the diaphragm.

The conditions actually found were rather peculiar. An old thick firm abscess wall was seen, bounded below by the liver and above by the diaphragm. This cavity had no communication with any of the hollow abdominal viscera, nor was any source of such an abscess discovered in the abdomen. The lung, which had been pushed up, had formed a circular ring of adhesions on its pleural surface to the chest wall, dividing the pleural cavity into an upper and lower chamber. The latter communicated by a perforation in the diaphragm with the sub-diaphragmatic abscess which had hitherto been latent.

That the presence of gas was not due to any communication with any of the hollow abdominal viscera is clearly shown by the anatomical conditions, and the presence of a gas-producing bacillus, the bacillus coli, seems the only explanation of the presence of gas in the pleural sac.

So few cases have hitherto been reported of pneumothorax resulting from gas-producing organisms, that a synopsis of three previous cases may be given.

Levy,* writing in 1895, describes a case in a man aged 48, beginning with cough, pain in the left side and fever. Examination showed a left sided pleurisy. After four aspirations, three months after the onset of the illness, there was evidence of pneumo-thorax. Owing to dyspnoea the operation for empyema was performed, but the patient sank and died.

At the autopsy there was bilateral pleurisy and pericarditis with 1.5 litres of reddish yellow fluid in the right pleura, and in the upper third of the right lung a firm focus, the size of an egg, containing whitish caseous masses. A small yellow nodule was present on the small intestine, and a number on the under surface of the diaphragm. The pleuritic exudate removed during life showed the presence of an anaërobic bacillus, identical with that previously found by Fränkel in gas phlegmons and subcutaneous emphysema and subsequently identified as Welch's bacillus capsulatus aërogenes. The bacillus produced gas both in cultures and in living tissues.

This case seems, then, to have originated as a tubercular (?) pleurisy with effusion, subsequently infected with the bacillus aërogenes.

A. G. Nichols,* of Montreal, has recorded a case which is less open to

* Levy, Ueber den Pneumothorax ohne Perforation, Arch. für Exp. Pharmacologie, Bd. 35, 335.

* Nichols, Notes on some cases of infection by the bacillus aërogenes capsulatus, British Medical Journal, 1897, II., p. 1845.