

Pleural rub

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This column is aimed at developing your clinical acumen. A clinical quiz will alternate with a short discussion of a clinical sign. You are invited to send us requests for future topics and to provide photographs of clinical signs for the quiz section. Kindly send a fax or e-mail with your requests and mail high gloss photographs or a disk with high resolution (300dpi) jpeg files to us. (See contact details above) Photographs may include clinical signs, photographs of poisonous insects, plants, snakes, contaminated water or anything that may cause sickness or disease in South Africa. Kindly provide a short clinical synopsis of 100-200 words from which a quiz can be formulated.

1. INTRODUCTION

Pleural disease can manifest with one or more of the following; pleural effusion, pleuritic pain (pleurisy) and/or a pleural rub. The absence of one or more of the above, however, does not exclude pleural disease. A pleural rub, especially, may not always be detectable in the presence of pleural disease and it may even appear and disappear during the course of the day.

2. CHARACTERISTICS

A *pleural rub* is a grating, creaking or leathery superficial sound. It is produced by inflamed surfaces of the parietal and the visceral pleura, as caused by fibrinous exudates, riding over one another. The sound can be likened to the opening of a creaking door. The quality of the sound can be imitated by placing one hand over the ear and by rubbing the back of that hand with the fingers of the other.

Often, the patient will be able to localise the area by indicating where he or she experiences a sharp pain - often related to inspiration or coughing.

It is heard in areas where pleurisy most frequently occur, namely, in the axilla and beneath/behind the nipples. During normal breathing a rub may be inaudible and it may only be heard when the patient is asked to breathe deeply. It is heard towards the end of inspiration - just after the beginning of expiration. The intensity of the rub can often be increased by firm pressure on the stethoscope and by having the patient in an upright position or leaning forwards. A pleural rub is also notorious to come and go: it can recur within a few hours after disappearing, but can be present for many years in case of chronic disease.

3. POSSIBLE CAUSES OF A PLEURAL RUB

Any potential cause of pleural effusion, pleuritis or serositis can be causative. Examples are pneumonic (tuberculosis, viral or bacterial), malignancy, pulmonary infarction, collagen vascular

diseases, sub-diaphragmatic diseases (pancreatitis), amongst others.

4. DIFFERENTIAL DIAGNOSTICS

• *Pericarditis*

The friction rub of acute pericarditis is generally heard maximally to the left of the lower sternum, is accentuated when the patient leans forward and by pressure with the stethoscope. It occurs in synchronism with every heartbeat. Pleura covers some of the heart and a pleural rub at this site, may be indistinguishable from a pericardial friction rub. It is often helpful to ask the patient to hold his breath for a few seconds - the pleural rub will then "disappear". Many diseases, e.g. collagen vascular disease, may manifest with a serositis - a pleural and a pericardial friction rub may then be present concurrently. One should also look for other evidence of heart disease.

• *Ronchi and coarse crepitations*

These sounds do not always occur in the same part, or parts, of the respiratory cycle and can be altered or abolished by coughing.

• *Crepitus*

This is a superficially sounding sound, as seen in surgical emphysema. On palpation it may feel like crackling eggshells.

5. CONCLUSION

A pleural rub is a relatively common finding indicating pleural disease, with or without underlying lung disease. The absence thereof does not, however, exclude pleural disease. A significant amount of pleural fluid (effusion) may be present with a variety of diseases. The pleural rub may, however, only be evident once the fluid is drained or if organisation has taken place.

6. FURTHER READING/ BIBLIOGRAPHY

1. Epstein, Perkin, de Bono, Codison. Pleural rub. *Clinical Examination*. 1997; 111; 124-125
2. *Macleod's Clinical Examination (10th Edition)* 2000; 137; 140
3. Chamberlain EN, Ogilvie CM. *Symptoms and Signs in Clinical Medicine*. Eighth edition. 129; 137-138