The chest pain that wakes you:
The oesophageal connection

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It is 2:00AM, after the office party. You awake with a discomfort in the chest. As your mind focuses you sit up and the pain becomes a tight pressure feeling behind the sternum. You swallow saliva, take a deep breath, hold it and stretch up. The pain seems to settle a bit but remains retrosternal. You breath out but the pain is still there, maybe slightly worse and you think you may be having a heart attack. Do you wake the spouse or die alone? You check your pulse. It feels fine. It must be oesophageal. A swallow of cold water seems to help. An antacid tablet seems to help as well but now the pain is back with a vengeance. You begin to panic and now your brow is sweating. Deep slow breaths seem to help a bit. You get up and walk to the kitchen for more cold water and the pain is no worse. Maybe this really is oesophageal. You relax a bit and the pain improves to a severe retrosternal discomfort. After an hour you feel confident that this is probably oesophageal spasm. You are relieved you did not panic in front of the spouse and lie down to sleep again. Next morning you still have a slight retrosternal discomfort and the anxiety briefly resurfaces.

You are hopefully one of the many patients with chest pain that present to emergency units around the world who do not have myocardial ischaemia as the cause of retrosternal chest pain. For many however the diagnosis of oesophageal spasm is not true. Only about 10 - 50% of patients who have had a negative coronary angiogram have any oesophageal abnormalities on testing with oesophageal manometry. Less than 10% of these have oesophageal spasm and the rest have non-specific motility changes with the most common being a hypotensive lower oesophageal sphincter.

In most patient acid gastro-oesophageal reflux plays a central role. In some there may be hypersensitivity to acid reflux, temperature changes and distension. This is supported by the low incidence of endoscopic abnormalities detected in these patients. While 24 hour pH monitoring may reveal excessive reflux it is usually simpler to perform a therapeutic trial of the normal PPI dose, given three times a day before meals for a week if necessary. Standard or low doses of PPI and H2 antagonists are often insufficient to relieve the symptoms in these patients.

In those without an acid component, hypersensitivity to oesophageal distension may play a part. As in patients with irritable bowel where minimal rectal distension by a balloon produces severe discomfort not felt by normal patients so patients with oesophageal pain experience pain to minimal balloon distension as compared to normal subjects. Even more fascinating is the demonstration that hyperalgesia of the oesophagus is associated with an abnormality in the evoked cerebral potentials rather than in abnormalities in the oesophagus itself. This raises the problems of central pain perception rather than end organ abnormalities. A similar situation pertains to globus hystericus and proctalgia fugax.

Other non-cardiac / non-oesophageal causes of chest pain may need to be considered. These would include pleural, mediastinal and chest wall causes so a chest X ray is often
mandatory. Simpler chest wall problems such as neurasthenia (Da Costa Syndrome), osteochondritis and Bornholms also need to be considered.

The role of endoscopy is not clear. Less than 10% of patients will have any abnormality demonstrated and the cost of endoscopy needs to be taken into account. The presence of alarm signs and symptoms such as age of onset will guide this decision. It must be remembered that a normal endoscopy with a photograph for the patient is a powerful reassurance and will go some way in preventing the development of a chronic pain syndrome after the event. This is important as 44% of patients with documented non cardiac chest pain still suspect they had cardiac pain a year later with all the angst and foreboding this brings.

As indicated above initial treatment is a PPI before meals until the pain is relieved. Although it is frequently recommended that this may take up to a month my experience has been that a week (i.e. <28 Tablets) is usually sufficient before it becomes apparent that further investigation is needed. Referral to a gastroenterologist for endoscopy and or manometry is appropriate at this stage.

Other medical options for treating oesophageal pain include isosorbide dinitrate (Isordil) or diltiazem (Dilatam). The latter appears to cause fewer headaches which are the main side effect experienced. Off label use of sildenafil (Viagra) may at least distract the patient.

In summary retrosternal chest pain is a frightening symptom with significant morbidity and mortality if incorrectly diagnosed. It is a common symptom in emergency units where an ECG and appropriate blood tests will usually exclude cardiac misadventure. Routine endoscopy adds little to the diagnostic workup and should best be left to the gastroenterologist who will take responsibility for diagnosis and management along the lines mentioned above.