

# *Dressler's Syndrome: A Rare Complication*

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## **CardioCase presentation**

### **Greg's Chest Pain**

Greg, 46, arrives at the ED at the end of the day with his wife, who was very concerned about his increasing chest pain that has been present for the last three days.

#### **History**

He had a fairly extensive infarction two months ago and was treated with angioplasty with stent.

Greg used to smoke 40 to 50 cigarettes a day before he had the infarction and unfortunately has been unable to completely give this habit up.

He has a strong family history of coronary artery disease as both his father and elderly brother had MIs in their early forties. For that reason, the local cardiologist discharged him on warfarin for three months and Greg has asked his physician to monitor his international normalized ratio (INR) and dosing.

The pain was gradual in onset and was initially reterosternal, but became pleuritic in nature afterwards. It is worse when lying down, associated with:

- increased shortness of breath,
- malaise and
- fever of 37.5 C to 38 C.

His current daily medications include:

- ramipril 5 mg,
- bisoprolol 5 mg,
- warfarin 8 mg,
- clopidogrel 75 mg,
- acetylsalicylic acid 81 mg and
- atorvastatin 80 mg.

#### **Examination**

Greg is very anxious, with a radial pulse of 100 bpm that is regular and bilaterally equal. His BP is 110/80 mmHg and his chest is clear, though he is somewhat restricted when taking a deep breath.

He has a normal double rhythm with a scratchy, grating, high-pitched friction rub at the left lower sternal border.

Though his chest wall is not tender, he has minimal epigastric tenderness. The rest of his examination is normal.

His physician admitted him to hospital for further investigations.

**For more on Greg, see page 21.**

## CardioCase discussion

Dressler's syndrome is also known as post-MI syndrome and can occur from two to five days, or as long as three months post-MI. Other virtually identical syndromes may follow open-heart surgery (postpericardiotomy or postcardiotomy syndromes), or penetrating or blunt trauma.

The incidence of Dressler's syndrome is about 4% following transmural infarction and probably higher in open heart surgery.

The mechanism responsible for this syndrome has not been identified, but there is a likelihood that Dressler's syndrome is the result of a hypersensitivity reaction in which antigen originates from injured myocardial tissue and/or pericardium.

### Presentation

The presentation of Dressler's syndrome can be as follows:

- Pain, often pleuritic and worse lying down
- Malaise
- Fever
- Dyspnea
- Rarely, it may cause cardiac tamponade or acute pneumonitis

### Investigations

The following investigations may be useful when diagnosing Dressler's syndrome:

- Leucocytosis, sometimes with eosinophilia,

raised erythrocyte sedimentation rate (ESR)

- Serology may show heart autoantibodies
- Chest x-ray may reveal:
  - pleural effusion (83%),
  - parenchymal opacities (74%),
  - enlarged cardiac silhouette from pericardial effusion (40%)
- ECG may show ST elevation in most leads without reciprocal ST depression
- Echocardiogram shows pericardial effusion

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### About the author...



**Dr. Kubba** graduated from the University of Baghdad where he initially trained as a Trauma Surgeon. He moved to Britain, where he received his FRCS and worked as an ER Physician before specializing in Family Medicine. He is currently a FP, Mississauga, Ontario.

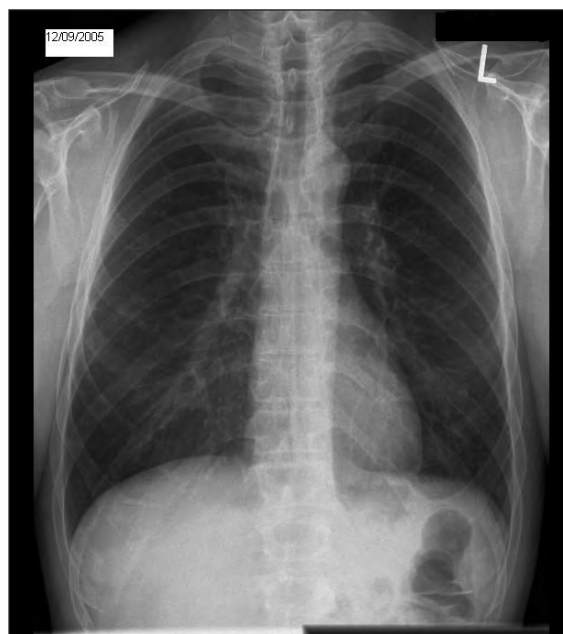


Figure 1. Chest x-ray.

## More on Greg...

### Further investigations

- A complete blood count revealed an Hb of 102 g/L with a normal hematocrit and mean corpuscular volume
- A white blood cell count was elevated to 15.9 L, with a neutrophil count of 12.1 L, associated with a platelet count of 683 L
- Erythrocyte sedimentation rate was elevated at 58 mm for the first hour and C-reactive protein rate of 175 mg/L was recorded
- INR was within the target therapeutic range of 2.5
- Renal, liver and thyroid function tests were all normal, apart from a positive D-dimer test.
- Chest x-ray (Figure 1) revealed that the heart was enlarged in transverse diameter. Pulmonary vasculature was within normal limits, with no evidence of cardiac decompensation or active pulmonary disease.
- ECG showed the previous anterior infarct with incomplete right bundle branch block

A chest CT scan (Figure 2) was done to exclude the tiny possibility of pulmonary embolism. Greg's CT scan revealed a small pericardial effusion with bilateral small pleural effusions. The pulmonary arteries did not show evidence of under filling, filling defects or cut-off of vessels.

### Management

You discussed Greg's case and whether to refer him for echocardiogram on an urgent basis with the cardiologist in the main city. The suggested to treat him with nonsteroidal anti-inflammatory agents as a case of Dressler's syndrome and to arrange the echocardiogram if things were not improving.

After Greg was started on 375 mg of naproxen b.i.d., the pain completely disappeared after two days. A stress test was arranged for him before he was discharged home, that came back negative.

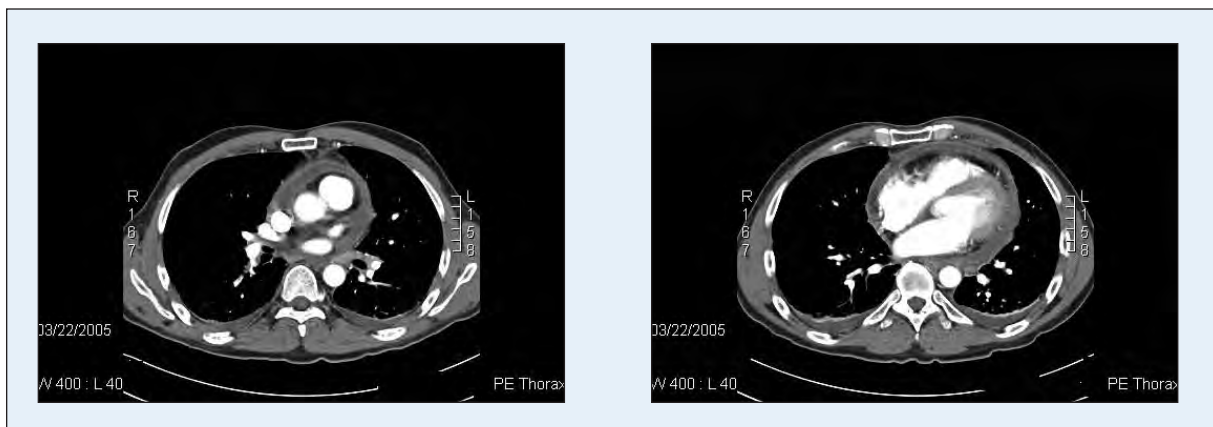



Figure 2. Chest CT Scan before and after treatment.

## Management

There is no specific therapy, but bed rest and, if necessary, anti-inflammatory treatment with acetylsalicylic acid up to 900 mg q.i.d., may be given. If this is ineffective, one of the non-steroidal anti-inflammatory agents, such as indomethacin (25 mg to 75 mg q.i.d.) or glucocorticoid (*e.g.*, 20 mg to

80 mg q.d. of prednisone) effectively suppresses the clinical manifestations of the acute illness. 

### Resources

1. Zipes DP, Libby P, Braunwald E, et al: *Heart disease*. 6th edition. WB Saunders Co. 2001.
2. Paelinck B, Dendale PA: Images in clinical medicine: Cardiac tamponade in Dressler's syndrome. *N Engl J Med* 2003; 348(23):e8.
3. Hope RA, Longmore M, Wilkinson I, et al: *Oxford Handbook of Clinical Medicine*. Fifth edition. Oxford University Press Inc, New York, 2001.