

CARDIAC SURGERY AND THE GENERAL PRACTITIONER: Developing a Booklet for General Practitioners on Post Hospital Discharge Problems and Complications on Patients Who Have Undergone Coronary Artery Bypass Surgery

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Introduction

- General practitioners will often be faced with patients who have undergone cardiac surgery - coronary artery bypass grafting (CABG) is the most common operation performed in the world today.
- Even though CABG can be considered a routine operation, it still constitutes major surgery, with not insignificant mortality and morbidity.
- In this poster we have tried to convey the most common postoperative problems that can occur in this patient group after discharge home, i.e. what the average GP will be consulted with, even if only initially.
- Just as in any other medical specialty, history and a well conducted directed examination are key to accurate diagnosis following cardiac surgery.

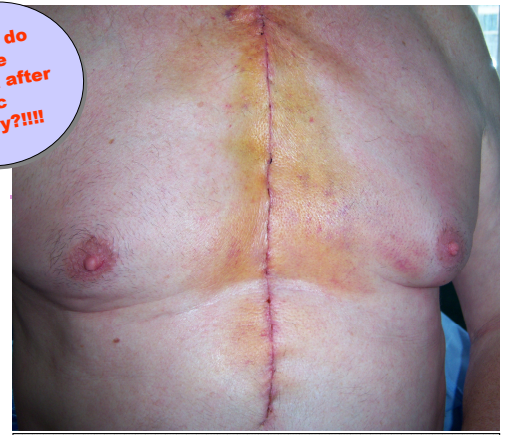


Figure 2. Sternotomy wound five days after surgery.

The 10 point history

1. What operation has the patient undergone?
2. How long ago was the operation?
3. Was the operation an emergency?
4. How long was the total and postoperative hospital stay? (Usually 5 to 10 days)
5. What cardiorespiratory state was the patient preoperatively?
6. How well was the patient on hospital discharge?
7. Was the patient specifically warned about any symptoms or signs?
8. What medications was the patient given upon discharge?
9. What is the specific complaint of the patient?
10. Ask specifically about sweats, temperature, shortness of breath, cough, pain, weeping wounds and ankle swelling.

The 10 point examination

1. Does the patient look well?
2. Is the patient short of breath?
3. Cold hands and feet indicate poor cardiac output.
4. Warm hands and a bounding pulse indicate sepsis.
5. Examine wounds: sternum (including sternal stability), leg, arm, and neck.
6. Is ankle oedema present?
7. Is jugular venous pressure (JVP) raised?
8. Listen to heart: fast atrial fibrillation (AF), and murmurs? Don't rely on radial artery for heart rate.
9. Listen to lungs: wheeze, infection, pulmonary oedema, effusion, atelectasis.
10. Is the epigastrium tender? Gastritis.



Figure 1. Radial artery (left) and saphenous vein (right) harvest site wounds approximately five days after surgery.

Medications post cardiac surgery

- **Maintaining graft patency:** generally aspirin; or if intolerant: dipyridamole, clopidogrel, warfarin.
- **Antacids** (as gastric prophylaxis)
- **Statin therapy** (to achieve target levels)
- **Warfarin:** long term (mechanical valves/atrial fibrillation); short term (tissue valves/atrial fibrillation/endarterectomy)
- **Anti-anginal medications:** nitrates sometimes for short period postoperatively; calcium channel blockers (usually diltiazem or amlodipine) to counteract radial artery spasm.
- **Anti-hypertensive medications:** are invariably reintroduced at some point postoperatively; ACE-inhibitors are first line in patients with poor left ventricular function.
- **Diuretic therapy:** long term (for patients on pre-operative diuretic therapy and/or poor left ventricular function), short term (for patients who had cardiopulmonary bypass i.e. "on-pump" CABG).

Problems Encountered

- Arrhythmias (most commonly atrial fibrillation)
- Wound infections:
 - Minor sternal or harvest site wound relatively common
 - Mediastinitis less common but serious
- Sensory changes: forearm, anterior hemithorax, leg, ulnar nerve/T1 palsy
- The short of breath patient:
 - Pleural effusion (more common on left)
 - Respiratory infection/atelectasis
 - Anaemia (consider gastrointestinal bleed)
 - Left ventricular failure (consider valvular leak)
 - Consider arrhythmia
- Neuropsychological dysfunction and uncoordinated fine movements of the hands.

Conclusions

- **General practitioners often contribute greatly to the long-term care of patients following cardiac surgery.**
- **Presentation of a patient who has recently undergone cardiac surgery in the primary care setting can be daunting and challenging.**
- **Having a clear step-wise approach to their assessment (as outlined above) can help identify problems and direct management**

Further information can be found at: <http://www.mpoullis.com/gp.htm>