Let's start with a case study

A 65-year-old male presents to the ED reporting that he had chest pain last night.

PMH: HTN, smoker for 40 years (~30 cigarettes per day), depression, fibromyalgia, family hx. of DMII, liver & kidney failure
Vital: HR 80, BP 127/80, 02 93% on RA, RR 18 non labored, temp 98.1
Current meds: Troponin T 102, Creatinine 1.6, high 13.9

Risk assessment: The pt. is currently pain free but states he feels very tired and that the chest pain initially woke him up from his sleep. The pain lasted approximately one half hour. He went back to sleep after the pain subsided and decided to be seen at the hospital this morning. He feels weakly and nauseated at this time.

Discussion questions

- What are some risk factors the patient has to suspect possible ACS?
- What is concerning about the pain assessment?
- What additional immediate interventions or management should we be offering?
- When should we repeat the troponin level?
- What referring providers should be involved in the patient's management?

Post-operative Management of the Cardiac Patient

Presented by Shelby J. Sabatke, MSN-BSN-RN & Darcy J. Schaller, BSN-RN, PHN

Let's Talk Statistics

1. How many CABG's are performed annually in the United States?
2. What is the mortality rate of CABG surgery?
3. What is the complication rate of CABG surgery?
4. What is the average length of a CABG surgery?
5. How many of you have cared for a CABG patient?

Preoperative Care

- Heart cath/cardiac angiogram
- Echo/TEE
- Carotid US
- MRSA screening
- Height and weight
- Labs and T&S
- PFTs
- CXR
- ECG
- Vein mapping

Preoperative Teaching

- Pre-op cares and education
  - Pre-op scrub
  - Morning of surgery experience
  - Postoperative expectations
    - Sights & sounds in the ICU vs. med-surg floor
    - Endotracheal tube & extubation
    - Invasive lines
    - Reassessment of pain management
    - Pulmonary care
    - Activity restrictions
    - Physical appearance & incisions
    - Medication adjustments
    - Possible complications

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Intraoperative Course of Events

Intra-op preparation:
- Intraoperative setup and shaving of incisional areas to prevent infection
- ECG monitoring put in place
- Equipment set-up and imaging review

Surgical prep
- Deep sleep
- Other preparations and setup

Surgical setup
- Monitoring preparations
- Antiseptic scrubs and shaving of incisional areas
- Equipment setup and imaging review

Start of surgery
- Communication and setup
- Monitoring and setup

Surgery
- Monitoring and setup
- Monitoring of patient

Postoperative Course of Events: SICU

OR → SICU:
- What happens to the heart in the OR?
- What does a heart surgery look like?

Post-operative Course of Events: The Transition

SICU → ARRIVAL TO THE STEP-DOWN OR MED-SURG FLOOR

Post-operative Course of Events: The Transition

SICU → step-down or post-surgical floor:
- Anti-coagulation/dual antiplatelet therapy
- Aspirin
- Heparin, Enoxaparin, Clopidogrel
- Tight blood sugar control
- Not just for diabetics
- QID finger-sticks
- Sliding scale insulin
- Sliding-scale electrolytes
- K+ & Mag in particular
Post-operative Course of Events: The Transition

SICU → step-down or post-surgical floor:
- Diuresis
  - IV to PO Lasix
  - Bumex if needed
  - Wrap & elevate legs
- Input and output
  - Strict I&Os
  - Daily weights before breakfast
- Respiratory status
  - Metanemas
  - IS & acapella
  - Ambulation

Incision monitoring
- Sternal incision
  - Surgical closure
  - What does a well-healing sternal incision look like?
  - Sternal precautions need to be followed
  - Dehiscence & drainage can lead to infection

Incision monitoring
- Chest tube sites
  - Outline shadow drainage & reinforce PRN
  - Dress with 2x2 as needed
  - Some thin clear/pinkish drainage is normal
- Harvest sites
  - Saphenous veins harvested for bypass
  - Antimicrobial dressing left on the 2-3 harvest sites
  - Collateral circulation
  - Any restrictions?

Post-op Complications: Heart Rhythm & Rate

Ventricular Tachycardia
- Abnormal rapid, inadequate heart rhythm which starts in the ventricles
- Sustained VT vs. runs of VT
- Multiple causes
- Treatment – an emergency if sustained. ACLS protocol

Bradyarrhythmia
- HR <60 bpm
- Causes: AVBs, sinus node dysfunction, beta-blockers
- Treatment – atropine, transcutaneous pacing, dopamine, epinephrine, cards consult, transvenous pacing

Post-op Complications: Respiratory

Hypovolemia
Atelectasis
Pneumothorax
Decreased pulmonary toiletting
Post-op Complications: Miscellaneous

- Surgical site infection:
  - Education
  - Sternal precautions
  - Dressing changes, wound packing, VAC, external debridement, resection
- Bowel issues:
  - Constipation vs. obstruction
  - Educate about effects of anesthesia, opioids, lack of activity, & meds
  - Brown cow example, SUPP, Mag Citrate, enema
- SICU, providers may start Terramycin
- Emotional variance:
  - Anxious state, mood swings, depression

Postoperative Course: Discharge Planning & Aftercare

**THE CARDIOTHORACIC TEAM**
- Determines if patient meets criteria to leave
- Educates the patient
- Puts in discharge orders

**SOCIAL WORK**
- Monitors discharge progress
- Helps ensure suitable arrangements are in place
- Contacts rehab facilities & nursing homes
- Facilitates outpatient cardiac rehab

**PT & OT**
- Assess for & provide assistive devices
- Determine if the patient can recover safely at home or if additional rehabilitation is needed
- Continue working w/ patient in an outpatient setting

**HOME HEALTH AGENCIES**
- PHN for all CABG surgery (vitals, incision checks, medication management, well-being check)

**References**


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