**GENERAL SURGERY time:2hours**

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**GENERAL POSTOPERATIVE PROBLEMS AND MANAGEMENT**

**PAIN:**

 **Management of postoperative pain relieve suffering and leads to earlier mobilization, shortened hospital stay, reduced hospital costs, and increased patient satisfaction. An effective postoperative management is not a standardized regime rather is tailored to the needs of the individual patient, taking into account medical, psychological, and physical condition; age; level of fear or anxiety; surgical procedure; personal preference; and response to therapeutic agents given. The major goal in the management of postoperative pain is to minimize the dose of medications to lessen side effects & provide adequate analgesia. Postoperative pain is still under managed due to obstacles in implementation of Acute Pain Services due to insufficient education, fear of complications associated with available analgesic drugs, poor pain assessment and inadequate staff.**

**Nausea and vomiting:**

**Postoperative nausea and vomiting (PONV) can precipitate bleeding and dehiscence**

**of wounds by dislodging the clots and bursting suture lines. In neurosurgical patients, it may precipitate raised intracranial pressure with disastrous effects.**

 **Patients who are smokers or those who have a past history of motion sickness or migraine are known to have a higher risk of developing PONV. Use of volatile anesthetic agents, opioids and nitrous oxide add to the risk. Duration and type of surgery also affect the incidence of PONV.**

**Adequate treatment of pain, anxiety, hypotension and dehydration will minimize the**

**risk of the patient developing PONV.**

**At least one antiemetic should be given on a regular basis in the high-risk group of patients and a second one written up to be given when needed.**

**Bleeding**

**The patient’s blood pressure, pulse, urine output, dressings and drains should be checked regularly in the first 24 hours after surgery.**

**- If bleeding is more than expected for a given procedure, then pressure should**

**be applied to the site and blood samples should be sent for coagulation profile and cross**

**match.**

**- Fluid, blood resuscitation should also be started. Ultrasound or CT scan may need to be arranged to determine the size and extent of the hematoma. If immediate control of bleeding is essential, the patient may be taken back to the operating theatre.**

**- The radiological embolisation of bleeding vessels can also prove useful.**

**- In a patient with postoperative bleeding, oxygenation and fluid resuscitation should be continued, and blood or blood products given if the haemoglobin concentration is less than 8 g/dL. Serum fibrinogen levels below 1 g/L or aprothrombin time (PT) and activated partial thromboplastin time (APTT) greater than1.5 times normal levels indicate the need for fresh frozen plasma.**

**cryoprecipitate and fibrinogen concentrates. The platelet count should be maintained above 75 × 109/L.**

**- Minor bleeding in an airway can have a catastrophic effect.** **paralytic ileus after surgery?**

**PARALYTIC ILEUS:**

**Etiology**

* **Interruption of the GI continuity (in cases of resection) or manipulation of the bowel.**
* **Anesthetic and analgesic medications.**
* **Immobility.**
* **Electrolytes imbalance especially hypokalemia.**
* **Intra-abdominal hematoma.**
* **Intra-abdominal severe infection or sepsis.**
* **Chronic medical conditions like diabetes mellitus (DM)**

**Deep vein thrombosis**

**Patients suffering postoperative deep vein thrombosis (DVT) may present with calf pain, swelling, warmth, redness and engorged veins. However, most will show no physical signs.**

**On palpation, the muscle may be tender and there is a positive Homans’ sign (calf**

**pain on dorsiflexion of the foot), but this test is neither sensitive nor specific.**

**Venography or duplex Doppler ultrasound is used to assess flow and the presence of thromboses.**

**If a significant DVT is found (one that extends above the knee), treatment with intravenous heparin initially, followed by longer-term warfarin, should be started. In some patients with a large DVT.**

**Most hospitals have a DVT prophylaxis protocol. This may include the use of stockings, calf pumps and pharmacological agents, such as low molecular weight heparin. No method of prophylaxis is foolproof and they all have their own complications.**

**pulmonary embolism :** **A pulmonary embolism occurs when ablood clot blocks an artery in the lungs The risk of pulmonary embolism after surgery is highest for the first 1–6 weeks, particularly if a person cannot move around. Take anticoagulants, using compression devices, and gradually increasing movement can reduce the risk.**

**Hypothermia and shivering**

**Anesthesia induces loss of thermoregulatory control. Exposure of skin and organs to**

**a cold operating environment, volatile skin preparation (which cool by evaporation),**

**and the infusion of cold i.v. fluids all lead to hypothermia. This, in turn, leads to increased cardiac morbidity, a hypocoagulable state, shivering with imbalance of oxygen supply and demand, and immune function impairment with the possibility of wound infection. Active warming devices should be used to treat hypothermia as appropriate.**

**Fever**

**About 40 per cent of patients develop pyrexia after major surgery; however, in most**

**cases no cause is found. The inflammatory response to surgical trauma may manifest**

**itself as fever, and so pyrexia does not necessarily imply sepsis. However, in all**

**patients with a pyrexia, a focus of infection should be sought.**

**The causes of a raised temperature postoperatively include:**

**• days 2–5: atelectasis of the lung;**

**• days 3–5: superficial and deep wound infection;**

**• day 5: chest infection, urinary tract infection and thrombophlebitis;**

**• >5 days: wound infection, anastomotic leakage, intracavitary collections and**

**abscesses;**

**• DVTs, transfusion reactions, wound haematomas, atelectasis and drug reactions,**

**may also cause pyrexia of non-infective origin. Patients with a persistent pyrexia**

**need a thorough review. Relevant investigations include full blood count, urine**

**culture, sputum microscopy and blood cultures.**

**Pressure sores**

**These occur as a result of friction or persisting pressure on soft tissues. They**

**particularly affect the pressure points of a recumbent patient, including the sacrum,**

**greater trochanter and heels.**

**Risk factors are poor nutritional status, dehydration and lack of mobility and also**

**include the use of a nerve block anesthesia technique. Early mobilization prevents pressure sores, while those who are unable to turn in bed should be turned every 30 minutes to prevent pressure sores from developing. High-risk patients may be nursed on an air filter mattress, which automatically relieves the pressure areas.**

**Drains**

**Drains are used to prevent accumulation of blood, serosanguinous or purulent fluid**

**or to allow the early diagnosis of a leaking surgical anastomosis. In clean surgery,**

**such as joint replacement, blood collected in drains can be transfused back into the**

**patient provided that an adequate volume (>150 mL) is collected rapidly (<12 hours)**

**and that a specifically designed drain and filter system is used.**

**The use of surgical drains has decreased in recent years as the evidence for their**

**benefits has been questioned. They can result in complications, such as trauma to**

**surrounding tissues, and act as a conduit for infection.**

**This lost fluid should be replaced with additional intravenous fluids with the same**

**electrolyte contents. Continued loss of blood through the drain should be**

**investigated for the source.**

**Drains should be removed as soon as possible and certainly once the drainage has**

**stopped or become less than 25 mL/day.**

**Wound care**

**Within hours of the wound being closed, the dead space fills up with an**

**inflammatory exudate. Within 48 hours of closure, a layer of epidermal cells from**

**the wound edge bridges the gap.**

**So, sterile dressings applied in theatre should not be removed before this time.**

**Wounds should be inspected only if there is any concern about their condition or the**

**dressing needs changing. Inspection of the wound should be performed under sterile**

**conditions.**

**If the wound looks inflamed, a wound swab may need to be taken and sent for Gram**

**staining and culture. Infected wounds and hematoma may need treatment with**

**antibiotics or even a wound washout. Samples obtained at this time should be sent**

**for bacteriology (before any antibiotics are given), any dead tissue excised and**

**bleeding vessels identified and closed off.**

**The wound should be packed if it is contaminated or if any nonviable tissue remains.**

**The patient should return to theatre every 24–48 hours for further cleaning until the**

**wound is clean enough to close.**

**in sutures or clips are usually removed between 6 and 10 days after surgery. The**

**period can be shorter in wounds on the face or neck, and are left longer if incision**

**has been closed under tension. If the wound is healing satisfactorily, then the patient**

**may be allowed to shower one week after surgery. Wound healing is delayed in**

**patients who are malnourished, or have vitamin A and C deficiency. Steroids also**

**inhibit the adequate healing of wounds as they inhibit protein synthesis and**

**fibroblast proliferation. Diabetes, particularly if uncontrolled, also has a deleterious**

**effect on wound healing.**

**Wound dehiscence**

**Wound dehiscence is disruption of any or all of the layers in a wound. Dehiscence**

**may occur in up to 3 % of abdominal wounds and is very distressing to the patient.**

**Wound dehiscence most commonly occurs from the 5th to the 8th postoperative day**

**when the strength of the wound is at its weakest. It may herald an underlying abscess**

**and usually presents with a serosanguinous discharge. The patient may have felt a**

**popping sensation during straining or coughing.**

**Most patients will need to return to the operating theatre for re-suturing. In some**

**patients, it may be appropriate to leave the wound open and treat with dressings or**

**vacuum-assisted closure (VAC) pumps.**

pulmonary embolism:

pulmonary embolism (PE) is a blood clot that develops in a blood vessel elsewhere in the body (often the leg), travels to an artery in the lung, and suddenly forms a blockage of the artery.

Wound scar: Scarring is part of the body's natural healing process after tissue is damaged. When the skin is wounded, the tissues break, which causes a protein called collagen to be released. Collagen builds up where the tissue is damaged, helping to heal and strengthen the wound.

**DISCHARGE OF PATIENTS**

**Patients discharged home need a ‘discharge letter’ detailing the postoperative plan.**

**The discharge letter should include details of the final diagnosis, the treatment and**

**any complications that may have occurred. There should be advice for referring the**

**patient back to hospital and indications for readmission if specific problems do**

**occur. The GP should be informed of the subsequent care plan including follow up,**

**physiotherapy and other support needed. Pathology results should be included if**

**available and the basis of these in the subsequent care plan should be described along**

**with the prognosis if appropriate.**

**Reference:**

**Shorts practice of surgery Baily&love**