PBL Case (3)

Group A

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Case(3)

- 66-year-old mother of two young children, attended as an inpatient for an elective vaginal hysterectomy and repair of prolapse under spinal anesthesia . She had no relevant past history and her preoperative assessment was unremarkable. During surgery, blood loss was greater than usual at 800 ml but no other problems were noted. In the recovery room she was well but noted to be pale and agitated, complaining of abdominal pain. An hour later as she had become unwell, pale and hypotensive with a borderline tachycardia (BP 90/60 mm Hg, pulse 122 bpm)

Case(3)

❖**What is the complication in the given case?** Postoperative hypotension

❖**Give differential diagnoses.**

1-Side effect of the anesthesia drugs

2-Bleeding at operation site:

Surgical technique problem: perforation, unclamped vessels.

Inherited bleeding disorders: hemophilia, Von willebrand disease

Drug induced: Heparin,Clopidogrel,Asprin.

Medical conditions: hepatitis, liver cirrhosis.

3- Anaphylaxis: allergic reaction triggered by some antibiotics

4-Cardiac conditions:

Myocardial depression: Myocardial ischemia, myocardial infarction

Cardiac dysrhythmia: atrial flutter, atrial fibrillation that not allow adequate ventricular filling time >> decreases stroke volume>>> decreases cardiac output >>> decreases systemic blood pressure.

Case(3)

❖ **What are the clinical indicators of hypovolemia?**

Symptoms:

- Anxiety
- Cool, clammy skin
- Confusion
- Decreased or no urine output
- General weakness
- Pale skin color (pallor)

- Rapid breathing(shallow breathing)
- Sweating, moist skin
- Unconsciousness
- chest pain
- The greater and more rapid the blood loss, the more severe the symptoms of shock.
- A physical exam will show signs of shock, including:
- Low blood pressure
- Low body temperature
- Rapid pulse, often weak

Case(3)

❖ **How do you monitor and assess the patient in this case?**

- Heart rate
- Blood pressure.
- Urine output.

- Check HR and BP lying and standing for 1 minute

- If patient cannot stand due to preexisting conditions, try to dangle legs over side of bed for 1 minute

- Look for supporting findings for hypovolemia

- Review pitfalls in the diagnosis of hypovolemia

Interpretations:

- If supine HR more than 100 and systolic BP less than 100 mm HG, patient may be in hypovolemic shock.

- If patient unable to stand due to lightheadedness OR systolic BP drops more than 20 mmg HG OR heart rate rises by 20 bpm on standing, patient is moderately hypovolemic.

- If patient has other supporting findings for hypovolemia, but no postural drop or postural tachycardia, then patient may have mild HYPOvolemia.

Case(3)

❖**What are the managements of postoperative hypotension?**

- Initially treat with fluid bolus
- Vasopressors
- Correction of the cause

Case(3)

❖ **When do we transfuse blood?**

- The aim of blood transfusion should be to treat life-threatening anemia after any hemorrhagic event.

- It is mainly given when the Hgb level is low to increase O carrying capacity, therefore, declining oxygen saturations and lactic acidosis can be signs to start transfusion.

- Hemoglobin concentration of <7 g/dL is an indication to start transfusion immediately.

- Problems of low blood pressure and reduced circulating volume should ideally be treated with crystalloid and colloid. Therefore blood transfusion should not form part of resuscitation, but be given after control is achieved.

- Up to 30% of blood volume loss can be managed with crystalloids

- Never give blood when the patient is still bleeding, blood will be wasted, subsequent anemia will be untreatable.

Case(3)

❖**How much blood should be given?**

- It depends on the patient condition, comorbidities, Hemoglobin level, amount of blood loss.

- Each unit should raise the Hb level by approximately 1.5 g/dL

- Transfusion rates for blood should not exceed 2-4 mls/kg/hr

- Patients should be examined clinically for evidence of volume overload.

Thank you