SA bleeding disorder review

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Outline

• Case Summary
• Management of the SAE
• Implication for future care
• Looking the SAE from a QI perspective
Clinical Case Summary

- On April 9, 2013, a 15 year old client received a VMMC service after client has gone through standard screening, history and physical examination.

- Immediately after the circumcision, the bleeding from the fresh wound continued despite careful hemostasis using both diathermy and sutures.

- The team did a re-exploration within two hours, removed clots and stopped any bleeders they could see and sutured the wound and admitted the client for 24 hour post circumcision observation.
Clinical Case Summary

• The following morning, the client continued to have bleeding and developed pallor although hemodynamically stable.

• He was given IV R/L, and one unit of whole blood, and on further history, the team learned that the client is a known hemophilia A patient on regular follow up, but neither the guardian nor the client saw the relevance of that to the circumcision, and no one in the clinic asked.
Lab report

Specimen received: EDTA blood  
Tests requested: FBC

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
<th>Normal Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Cell Count</td>
<td>7.50 x 10^9/L</td>
<td>4.00 - 10.00</td>
</tr>
<tr>
<td>Red Cell Count</td>
<td>2.73 x 10^12/L</td>
<td>4.89 - 6.11</td>
</tr>
<tr>
<td>Haemoglobin</td>
<td>6.9 g/dL</td>
<td>14.3 - 18.3</td>
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<tr>
<td>Haematocrit</td>
<td>0.223 L</td>
<td>0.430 - 0.550</td>
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<tr>
<td>MCV</td>
<td>81.7 fL</td>
<td>83.0 - 101.0</td>
</tr>
<tr>
<td>MCH</td>
<td>25.3 pg</td>
<td>27.0 - 32.0</td>
</tr>
<tr>
<td>MCHC</td>
<td>30.9 g/dL</td>
<td>31.5 - 34.5</td>
</tr>
<tr>
<td>Red Cell Distribution Width</td>
<td>15.8 H%</td>
<td>11.5 - 14.0</td>
</tr>
<tr>
<td>Platelet Count</td>
<td>368 x 10^9/L</td>
<td>150 - 400</td>
</tr>
<tr>
<td>MPV</td>
<td>8.5 fL</td>
<td>7.0 - 11.4</td>
</tr>
</tbody>
</table>
Referral

• The VMMC team decided to refer the client to a different hospital for assessment by surgeon and hematologist for further management

• The nearest hospital had no bed available so client was referred to a facility a bit further
Specialty care

• The receiving hospital consulted with a hematologist and started the client on FVIII

• Bleeding has stopped and client was enrolled in outpatient follow up for post circumcision wound care and hematologic care
Case Audit

• The team identified multiple gaps in the system that resulted in the occurrence of this case
  – Client card had no specific question on bleeding history
  – The nurse who did the screening didn’t ask specific questions as discussed in the training program
  – The doctor who performed did not confirm the clients history or contraindications before the procedure
  – The client and parents reported that they always provide answer to the specific questions asked
  – The facility had limited lab supplies to perform coagulation profile
Bleeding related AEs

• Most typically occur in the first 72 hours after surgery
• Those occurring later are often associated with trauma to the genital area or early commencement of masturbation or sexual intercourse.
• The primary cause is a previously unidentified or newly disrupted bleeding vessel
Classification

Time of occurrence:

- Intra-operative or immediate postoperative bleeding
- Post-operative bleeding

Severity

- Mild, moderate and severe.
ALGORITHM FOR PREVENTION AND MANAGEMENT OF ACUTE BLEEDING AFTER MC

Ask if client or family has a history of bleeding tendencies

- NO
  - Proceed with VMMC
  - Check Hb, PT, PTT (if available), bleeding time, platelet count
    - Normal
      - No Post-op bleeding
        - Observe for 30 min. Routine follow-up
        - Cause found
          - Surgical intervention
        - Cause not found
          - Observe for 60 min. Follow-up in 24 hours
    - Abnormal
      - Post-op bleeding
        - Find surgical cause of bleeding
        - Suspect bleeding disorder

- YES
  - Normal
    - Refer for evaluation
  - Abnormal
    - Suspect bleeding disorder

MANAGEMENT OF A SUSPECTED BLEEDING DISORDER:

- EMERGENCY RESUSCITATION if in hypovolemic shock
- CONTROL BLEEDING by manual compression and/or pressure dressing until diagnosis and definitive treatment can be given
- ADMIT the client or REFER to a higher facility
- With referrals, CALL so that facility can get ready for the patient
- REASSURE the client
- DETERMINE if the client is on anticoagulant therapy
- INVESTIGATIONS – Hb, PT, PTT, bleeding time, platelet count, blood type and crossmatch
- BLOOD TRANSFUSION if hypotensive since Hb may be normal after acute bleeding
- MANAGE according to the cause – e.g. Vitamin K, clotting factors. FFP, platelet transfusion etc.

Adapted from JHPIEGO
Early detection

Communication between Surgeon and assistant

Lack of protocol for screening bleeding tendencies

Inadequate training and supervision

Patient suffers

Delayed in Care

Lack of protocol for screening bleeding tendencies
A Common Challenge

- According to the WHO, tens of millions of patients worldwide suffer disability or death due to unsafe medical care annually.
- Estimated adverse event rate of approximately 10% across healthcare.
- Preventable harm causes up to 440,000 deaths per year in US hospitals, making it the third leading cause of death.
- Approximately 45-66% of these adverse events are related to surgery.

Prevention and management

- Obtain and record medical history
- Early recognition of abnormal bleeding
- Apply pressure
- Get help when needed; referral plan in place
- Management by experienced surgeon with medical back up
Treatments

• Platelet transfusions
• Fresh frozen plasma
• Cryoprecipitate
  – Factor VIII, vWF, Fibrinogen
• Inhibitors of fibrinolysis
  – Amicar, tranexamic acid
• DDAVP
  – Desmopressin, release of factor VII
Summary

• Bleeding post MC is among the commonest AEs
• Can be significantly minimized by careful history taking to rule out clients with bleeding disorders
• A VMMC encounter may be the first time a bleeding disorder may be diagnosed
• Costs incurred to programs for not paying attention to prevention may affect the programs
System Factors Impact Safety of Patients
Recap

• Every system is designed to achieve its anticipated results
  – Develop lenses to see systems, using approaches such as - QI
• Safety and quality designs can be standardized by create independent checks, and learning from each “defects”
  – Infuse these principles of standardization and independent checks in your processes
Questions?
References


