Penetrating Abdominal Trauma

Assessment

Life Threatening Consequences of Penetrating Abdominal Trauma

1. Intra-abdominal Bleeding (Vascular Injury or Solid Organ Rupture)
2. Hollow Organ Injury
3. Renal Injury
4. Diaphragmatic Injury

Early surgical referral

Penetrating injury to the abdomen and abdomen with any of the following:
- Haemodynamic Instability
- Free Intraperitoneal air
- Peritoneal Signs
- Evisceration
- GIT Haemorrhage

Abdominal Injuries frequently accompany multiple other injuries: ALWAYS look for co-existing injuries.

Use a Standard ATLS approach

Assess - Intervene - Reassess: Assessment and Management occur in tandem

The goal is to determine whether there is a significant intra-abdominal injury.

Examination

Primary: Assess ABCs then Secondary Head-to-toe Examination

Specifically for Penetrating Abdominal Trauma
- Check haemodynamic status and Hb
- Look for potential sites of blood loss
- Screen for external bleeding (Look at the back)
- Screen for internal bleeding (Chest; Abdomen; Pelvis; Long Bones)
- Abdominal Examination: Distension; Discoloration; Tenderness; Rebound; Peritonism
- Abdominal signs may be masked in head injury, intoxication, or other severe injuries
- Assess wound tract carefully but do NOT do a blind finger exploration
- PR exam may be indicated

Take a SAMPLE History

- Signs and Symptoms: Abdominal pain, Vomitting
- Allergies
- Medications
- Past Medical history: Previous Abdominal Surgery
- Last Meal
- Events: Mechanism and Type of Injury

Investigations

- Hb and Glucose
- Urine dipstix: Specifically for haematuria
- Bloods: Renal Function. Formal Hb. XMatch
- Trauma XRay Series
- Erect CXR for free air
- AXR only if foreign body suspected
- Other XRays as clinically indicated

Point of Care EFAST scan

Look for intra-abdominal, pleural and pericardial fluid. Look for pneumothorax.
If stable, consider CT scan of abdomen

Consultation with Western Cape Metro Trauma Surgeons

Western Cape Emergency Medicine Protocols
Stabilise ABC's
- Stop external bleeding - Pressure
- Manage Internal Bleeding: Close open book pelvis fracture. May need ICD.
- Emergency Laparotomy may be needed to stop bleeding
- Insert 2 x large bore IV lines
- Attach monitors: ECG, SpO2, BP cuff
- Insert Urinary Catheter. May need a NGT (Not if a Base of Skull Fracture)

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IV Analgesia - Morphine
- Reconstitute 10mg in 10 ml water
- Loading dose: 0.1-0.15 mg/kg (Use leas for elderly or frail) then Bolus 0.05 mg/kg every 15 min
- Titrate to analgesic effect. Beware of decreased BP and respiratory depression

Not Shocked Haemodynamically Stable
- EFAST
  - Negative
    - Surgical Consult if any worrying features
  - Positive
    - CT scan AND for surgical admission

Indications for Laparotomy regardless of Haemodynamic Status
- Decreased Level of Consciousness
- Spinal Cord Injury
- Peritoneal Signs
- Bowel Evisceration
- Blood in NGT or PR

Shocked Haemodynamically Unstable
- Resuscitate
  - 2 l Crystalloid
  - Monitor response to fluid with urine output, pulse and CRT
  - Repeat crystalloid once then consider blood

Polytrauma patients have multiple injuries and may need multiple surgeries.
This requires prioritising management of injuries and consultation with the various specialities concerned

Disposition
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<th>Discharge</th>
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| Wound Judged To Be Non-Penetrating and
- Normal Vital Signs after 4 hours in EC
- No criteria for admission
- Asymptomatic after management
| Admit Level 2
Any penetrating abdominal stab wound
or needs admission for other injuries
| Admit Level 3
(See Direct Trauma Referral Criteria)
- Polytrauma
- Pregnant
- Haemophilia
- Any haematuria
- GCS < 14
- Associated injuries needing tertiary care (eg praecordial stab)
| Find and treat other causes of shock: may be multiple.
Surgical Referral |

These patients can be seen and discharged from every level of care with Abdominal Injury Discharge Advice. Attend nearest Emergency Centre if there are any of the following:
1. Increased abdominal pain or distention
2. Nausea and/or vomiting
3. Weakness
4. Dizziness
5. Fainting
6. New bleeding in urine
7. New bleeding in faeces

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Western Cape Emergency Medicine Protocols