Case Presentation of a Blunt Injury Abdomen

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Two different cases of younger ages with a history of fall from a running vehicle had blunt injury abdomen among which one of them was managed conservatively and another patient was operated
Introduction of Case 1

A 15 years male patient came with a history of fall from a running bike presented with complaints of:

- Pain in the left side of the abdomen with mild distension which was not associated with any other complaints

was brought to Casualty of KIMS, Narketpally after 4hrs of injury and admitted under General surgery Department
Chief Complaints

Patient presented with the complaints of:

- Pain in the left upper quadrant of the abdomen
- Abrasions over the left forearm
- No complaints of:
  - Vomiting
  - Shortness of breath
  - Palpitations
  - ENT Bleed, Seizures, Loss of Consciousness
Patient was apparently alright 4 hours back, had a history of fall started complaining of pain in the left hypochondrium which was diffuse in nature radiating towards the left shoulder with no relieving factor.

Patient also complained of mild Abdominal distension which was not associated with shortness of breath.

Patient on admission passed urine 2 times which was not associated with hematuria

No History of:
  - Difficulty in Breathing
  - Palpitations
  - Loss of consciousness, seizures, ENT Bleed, Vomiting
Past History

- No history of Previous surgeries
- No history of:
  - Diabetes mellitus
  - Bronchial Asthma
  - Tuberculosis
  - Hypertension
Personal History

- Diet: Mixed
- Appetite: Normal
- Sleep: Adequate
- Bowel and Bladder Habits: Normal and Regular
- No History of Smoking/Alcohol Intake
Family History/ Drug History

- Not relevant
Patient was conscious, co-operative, well oriented to time, place and person

- Glasgow Coma Scale: 15/15
- Temperature: Afebrile
- GRBS: 109 mg/dl
- Pulse: initially 124 bpm stabilized to 101 bpm
- Blood Pressure: 100/70 mm Hg initially but on Intra venous fluid correction stabilized to 110/80 mm Hg
- Respiratory rate: 24 cpm
General Examination

- No signs of pallor, clubbing, icterus, lymphadenopathy and oedema
- Chest compression test: negative
- Pupils: normal and reactive to light
- Spine compression test: negative
- Upper and lower limb movement present
Per Abdomen Examination

INSPECTION:
- Skin over the abdomen: Pointing sign and London sign: Negative
- Abdominal movements in Respiration present
- Mild generalized distension present
- Umbilicus: inverted
- No visible pulsations or dilated veins

PALPATION:
- Localized tenderness in the left hypochondrium
- Guarding present
- No rigidity
- No palpable lump noted
- Pelvic compression test: negative
Per Abdomen examination

- **PERCUSSION:**
  - Mild dullness noted all over the abdomen

- **AUSCULTATION:**
  - Bowel sounds present
Systemic Examination

- Respiratory System: Air Entry Equal on Both Sides; No added Sounds
- Cardiovascular System: S1 and S2 Heard, No Added Murmurs
Provisional Diagnosis

- Blunt injury Abdomen:
  1. ?Splenic Laceration
  2. ?Hemoperitonium
RBS: 98 mg/dl
Blood Urea: 38 mg/dl
Serum Creatinine: 0.7 mg/dl
Serum electrolytes:
  - Sodium: 143 mmol/L
  - Potassium: 4.0 mmol/L
  - Chlorine: 102 mmol/L
APTT Test: 29 sec
Prothrombin Time: 15 sec
INR: 1.1
Surgical Profile (Pathology)

- Complete blood count:
  - Hemoglobin: 11.8 gm%
  - Total count: 9,400/cu.mm
  - Neutrophils: 80%
  - Lymphocytes: 11%
  - Platelet count: 1.95 Lakhs/cu.mm
  - SMEAR: Normocytic/Normochromic

- Bleeding time: 2min 00 sec
- Clotting time: 4min 00 sec
- Blood Group: AB positive
- Complete Urine Examination: Normal
X-ray chest and Abdomen

- No evidence of rib fractures
- No evidence of free air under diaphragm
Ultrasonography report

- Few ill defined linear hyper echogenic foci noted in the Spleen suggestive of laceration
- hemoperitonium
Contrast enhanced computed tomography (CECT – Scan)

- Spleen suggestive of multiple complex branching laceration with preservation of vascular pedicle (grade III injury)
- Other organs Normal
- Impression:
  - No evidence of active extravasation
  - Grade III splenic injury
  - Hemoperitonium
Blunt injury abdomen causing Splenic laceration grade III with no active bleeding

(According to splenic rupture grade III indicates:

- subcapsular haematoma >50% of surface area or expanding
- intraparenchymal haematoma >5 cm or expanding
- laceration >3 cm depth or involving trabecular vessels
- ruptured subcapsular or parenchymal haematoma

Mild Hemoperitonium about 100ml
Management

- Patient was treated conservatively because:
  - Age of the patient is taken into consideration
  - Though it was Splenic injury grade III there was no active bleeding (CECT Report)
  - Vitals were stable
  - Blood Pressure was improved
- Patient was initially kept under Nil by mouth for 5 days and Intra venous fluids were given
- Patient was kept under observation with antibiotics, analgesics, Ryle's tube aspiration 2nd hourly
- Initially PCV was 32%, peripheral smear showed:
  - Normocytic/Normochromic
  - WBC within normal limits
  - Platelet Adequate
  - Platelet count 1.5 L/cu.mm
- Two packets of Fresh Frozen Plasma was given
- After two packets FFP is given, Packed cell volume improved to 41%
Post Discharge follow-up

- USG was repeated every week for one month and there after monthly for 3 months along with abdominal examination
Introduction of Case 2

A female patient of age 19yrs came to Casualty after 6hrs of injury, KIMS, Narketpally with a history of fall from a running auto with complaints of severe pain in left side of the chest and abdomen along with anxiety, restlessness, shortness of breath was admitted under department of general surgery, with no other complaints initially.
• Patient came with complaints of:
  - Pain in the left side of the chest
  - Pain in the left upper abdomen
  - Abrasions on back side of the neck
  - Initially patient didn’t have any complaints of vomiting but had 4 episodes in hospital
  - No History of LOC, ENT bleed, Seizures
Patient came with a history of fall from auto started complaining of pain in the left side of the chest which was non radiating but associated with shortness of breath, anxiety, restlessness without any relieving factor and not associated with any external injury on chest. Patient also complained of pain in the left hypochondrium which was radiating towards the left shoulder, continuous in nature. Patient also had 4 episodes of vomiting which consisted of food particles and non projectile.

Patient initially didn’t have any distension but developed over a period of 6 hours along with pain all over the abdomen

Patient had no history of
- Loss of consciousness
- ENT bleed
- Seizures

Patient also complained of abrasions over the back side of the neck
PAST HISTORY

- Patient had no history of any previous surgeries
- No history of:
  - Bronchial Asthma
  - Tuberculosis
  - Hypertension
  - Diabetes Mellitus
PERSONAL HISTORY

- Diet: Mixed
- Appetite: Normal
- Sleep: Adequate
- Bowel and Bladder Habits: Normal and Regular
Family History/ Drug History

- Not relevant

"Any family history of cancer, heart disease, diabetes, extinction..."
GENERAL EXAMINATION

- Patient is conscious, co-operative, coherent
- Glasgow Coma Scale: 15/15
- Temperature: Afebrile
- GRBS: 112 mg/dl
- Pulse: 124 bpm and not improved
- Blood Pressure: 90/60 mm Hg but on correction with Intravenous fluids raised to 100/70 mm of Hg
- Respiratory rate: 24 cpm
- Pallor: present
GENERAL EXAMINATION

• No signs of clubbing, icterus, lymphadenopathy and oedema

• Pupils: normal and reactive to light

• Chest compression test: negative

• Spine compression test: negative

• Upper and lower limbs movement present
Respiratory System Examination

- **INSPECTION:**
  - Decreased chest expansion over the left side
  - Breath sounds diminished on left side
  - Trachea is central
  - No mass/scar seen on the chest

- **PALPATION:**
  - Chest compression test positive on left side
  - Sternum normal
  - Tenderness present on the left side

- **PERCUSSION:**
  - Dullness noted over the left side

**ASUCALTATION:**
- Breath sounds diminished on left side
PER ABDOMEN EXAMINATION

- **INSPECTION:**
  - Skin over the abdomen: Pointing sign and London sign: Negative
  - Abdominal movements in Respiration present
  - Generalized distension present
  - Umbilicus: inverted
  - No visible pulsations or dilated veins

- **PALPATION:**
  - Localized tenderness in the left hypochondrium
  - Guarding and rigidity present
  - No palpable lump noted
  - Pelvic compression test: negative

- **PERCUSSION:**
  - Dull note noted all over the abdomen

- **AUSCULTATION:**
  - Bowel sounds present
SYSTEMIC EXAMINATION

Cardiovascular System: S1 and S2 Heard, No Added Murmurs
CLINICAL DIAGNOSIS

Blunt Injury Chest and Abdomen leading to

1. ?Haemothorax and /or ribs fracture
2. ?Splenic laceration
3. ?Massive haemoperitonium
Blood Investigations (Biochemistry)

- RBS: 102 mg/dl
- Blood Urea: 27 mg/dl
- Serum Creatinine: 1.0 mg/dl
- Serum electrolytes:
  - Sodium: 142 mmol/L
  - Potassium: 4.2 mmol/L
  - Chlorine: 101 mmol/L
Complete blood count:
- Hemoglobin: 6.8 gm%
- Total count: 20,000 /cu.mm
- Neutrophils: 88 %
- Lymphocytes: 16 %
- Platelet count: 2.5 Lakhs/ cu.mm
- SMEAR: microcytic hypochromic with mild anisopokilocytosis with few macrocytosis (imp: Dimorphic anemia with neutrophilic leukocytosis)

Bleeding time: 2min 30 sec
Clotting time: 4min 30 sec
Blood Group : O positive
Complete Urine Examination: Normal
Arterial Blood Gas Analysis

- pH : 7.30 → 7.38
- pCO2 : 30 (Compensated metabolic acidosis) → 36
- pO2 : 211 → 175
- HCO3 : 14.3
- St. HCO3 : 15.9
- BEB : -10.7
- BEecf : -10.8
- TCO2 : 30.9
- O2 Sat : 99.7
- O2 Count : 12.7
Ultrasonography report

- Free Fluid with internal echoes noted in the Right Iliac fossae ( ? Hemoperitonium )
X-ray chest and Abdomen

- evidence of rib fractures (2-6)
- No evidence of free air under diaphragm
Contrast enhanced computed tomography (CECT – Scan)

- Spleen: Ruptured Parenchymal Hematoma (grade III injury)
- Other organs Normal
- Impression:
  - Evidence of active extravasation
  - Grade III splenic injury
  - Massive Hemoperitonium
Final Diagnosis

- Blunt Injury Abdomen and Chest causing
- Fracture noted: 2nd to 6th rib on left side who developed hemothorax while shifting
- Splenic laceration grade III with active bleeding
- Massive hemoperitonium
Management

• Patient was planned for splenectomy due to:
  • Vitals were unstable
  • Blood Pressure was not improved
  • CECT showed splenic injury grade III with massive hemoperitonium
  • Active bleeding (there was increase in the abdominal distension over period of time)
  • Patient was pale and Hemoglobin count showed 6.8 gm%

• Patient along with the attenders were explained about the complications and care to be taken after splenectomy, consent was taken and operated under emergency
Haemoperitonium  Ruptured spleen
Patient was given 1 pack of whole blood and 1 pack of Fresh Frozen Plasma and Hemoglobin was improved to 10.6 gm% which was repeated on Post Operative Day 1.

Liver function test was done which showed:
- Total proteins: 5.7 gm/dl
- Albumin: 3.4 gm/dl
  Corrected with Astymin forte for three days

Patient was given following vaccination immediately on the post operative day 1:
- Pneumococcal
- Meningococcal
- Hemophilus Influenzae B Vaccine
Post operative day 1  After ICD Inserted  After ICD removed
• Post operative day 1: chest X-ray showed hemothorax on left side for which intercostal Drain is fixed and fluid of around 500ml was collected which was sent for fluid analysis which showed Lactose Dehydrogenase of 982 IU/L and plenty of RBC.

• ICD was minimal for four days so it was removed after POD 4

• Hemoglobin count was repeated after POD 3 showed 13.2 gm/dl, and Peripheral smear showed normocytic, normochromic with neutrophilic leukocytosis and Packet Cell volume showed 41 %

• Patient was completely recovered after POD 8, sutures were removed and discharged

• Before discharge:
  • USG abdomen showed
    ❖ No visible spleen
    ❖ No evidence of fluid collection
  • X-ray Chest is:
    - Normal study
Post splenectomy prophylaxis

• Before discharge patient was clearly explained about:
  • Risk of the infections for which proper care is to be taken
  • Diet to be followed
  • Post splenectomy vaccine prophylaxis

“Careful - that new bed is a little touchy.”
## Reasons for difference in Management in these cases……

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Thank You

DONE WITH MY PRESENTATION

NOW I HAVE TO ANSWER QUESTIONS