

Abdominal Trauma

Blunt trauma causes the majority of abdominal injuries in children

- RTC
- Recreational activities
 - Contact sports
 - Bicycle or scooter handlebar injuries
 - Horse riding
 - Fall from a height

A high index of suspicion is necessary to ensure abdominal trauma is not missed

Abdominal contents are very susceptible to injury in childhood

- Relatively thin abdominal wall
- Diaphragm more horizontal causing the liver and spleen to lie lower and more horizontally
- Ribs are more elastic and offer less protection to liver and spleen
- Bladder is more intra-abdominal rather than pelvic
- Respiratory compromise may occur due to diaphragmatic splinting or irritation

History

An accurate history of the mechanism of injury is required

- Rapid deceleration e.g. RTC causes abdominal compression
- Direct blow from punching or handlebar injury may damage solid organs
- Straddling injuries with perineal haematoma or urethral bleeding may indicate bladder injury

Examination

Inspection

- Bruising
- Lacerations
- Penetrating wounds

NB major trauma can occur without bruising, but its presence makes serious injury more likely. Any abdominal bruising should be considered significant.

Palpation

- Tenderness
- Rigidity

Auscultation

- Bowel sounds

Rectal and vaginal examinations are rarely indicated in the injured child

The abdomen may be more easily assessed if it is decompressed with NG tube

Catheterisation of the bladder should take into account any possible urethral injury

Investigations

Blood

- FBC
- U&E
- Amylase
- Group & Save
- Clotting screen

Urinalysis

Imaging

- Plain films of chest, abdomen and pelvis are not adequate to rule out intra-abdominal injury
- Single contrast CT of the abdomen is the investigation of choice
 - Identifies solid organ injury
 - Confirms renal perfusion
 - Free air in the peritoneum is pathognomonic of perforated viscus
 - Significant free fluid without solid organ damage suggests bowel, or, less commonly, bladder injury

Ultrasound

- FAST scanning is commonly used in A&E departments, but a normal early scan does not exclude trauma

Management

Most children are managed conservatively with analgesia, fluids and repeated assessment

A surgeon who is trained to operate on the paediatric abdomen should be available, if not the child should be transferred to another centre

Indications for operative intervention

- Refractory shock with evidence of solid organ injury on CT
- Penetrating injury
- Bowel perforation

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