STANDARD TREATMENT WORKFLOW (STW)

Congenital Inguinal Hernias

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Standard Treatment Workflow (STW)

CONGENITAL INGUINAL HERNIAS

ICD-10-K46

PRESENTATION

- **Swellling**: Located in groin, labia, scrotum or inginal-scarlet, intermittent, reducible or irreducible, may appear in the inguinal canal.
- **Numbness**: Occurs in 1-5% of newborns, 10% of term newborns.

EXAMINATION

- **Swellling**: Inguinal or inguinoscrotal (inguinoceleal), reducible (felt or without gurgling sound) or irreducible, cough impulse.
- **Silk Glove Sign**: Helpless, sickly thickening of cord.
- **Contralateral Inguinal Hernia**: Up to 20% of patients may have synchronous or contralateral inguinal hernia.
- **Aggravating Factors**: In males, bilateral inguinal hernia (especially if associated with umbilical hernia), lower urinary tract outflow obstruction must be ruled out, connective tissue disorders, etc.
- **Content of Swelling**: Usually only bowel and omentum, rarely (fetal or fallopian tube) in females and testis in boys with associated cryptorchidism; tension of gonad to be ruled out.

WHAT IS IT?

Condition wherein the processus vaginalis fails to obliterate after descent of the respective testis resulting in protrusion of bowel, omentum, or other intra-abdominal contents into the inguinal canal or beyond.

Look for Danger Signs

- Irreducibility of swelling in isolation or associated with irritability, incontinence of bowel and obstipation. Bilious vomiting. Umbilical, scrotal and erythematous labia may suggest torsion of every testicle.

INVESTIGATION

**PRE-ANALGESIA ASSESSMENT**

**Essential**: Hemoglobin, serum electrolytes, other blood investigations depending upon general condition of patient and co-morbidities as per anaesthesia.

**Desirable**: Ultrasonography & Karyotype (in female inguinal hernia) to rule out complete androgen insensitivity syndrome in male.

TREATMENT (SURGERY)

**Treatment of Choice**: Inguinal herniotomy or laparoscopic repair under general anaesthesia.

- Complicated hernias may need additional maneuvers like complete reduction or laparoscopic repair for irreducible hernias, bowel resection for anastomosis for vascular compromise of bowel.
- In female hernia, the sac should be opened and inspected for presence of fallopian tube which must be preserved.
- It is recommended that the surgery be carried out by a paediatric surgeon and the anaesthetist should be experienced in paediatric anaesthesia.

**Mandatory Facilities in the Center**

- Neonatal or pre-term neonate (less than 60 weeks post-conception age) dedicated surgery ICU managed by pediatric surgeon or NICU managed by neonatologist.
- Other kids round-the-clock paediatrician or pediatric surgeon for post-operative monitoring.
- The primary community district health center should make the diagnosis explain the danger signs to the parents and refer the patient to a higher centre with defined infrastructure.
- Children with complicated hernia without peritonitis should attempt reduction without sedation. With peritonitis, insert NG and initiate reduction and refer to higher facility immediately.

**Timing and Place of Surgery**

As early as possible but not a live emergency. Danger signs should be explained to the parents at the time of making the diagnosis itself. Surgical NICU managed by pediatric surgeon or NICU managed by neonatologist.

Inborn neonates who are diagnosed with inguinal hernia, surgery should preferably be performed prior to discharge.

**Follow-Up**

- The first follow-up after discharge should be with the operating surgeon.
- Subsequent follow-up may be with the Primary health center close to the residence of the patient subject to approval by the operating surgeon.

**Inguinal Hernia Decision Tree**

- **Uncomplicated**
  - Lap repair of hernia along with herniotomy
  - Reduction successful
  - Herniotomy after 24-48 hours

- **Complicated**
  - Irreducible with no signs of peritonitis
  - Reduction (laparotomy)
  - Stabilize followed by urgent surgery

- **Irreducible with features of peritonitis**
  - Reduction not successful
  - Urgent surgery
  - Surgeon’s comfort

**Note**: Few scenarios like doubtful contralateral hernia, patients with conditions like atrophic bladder may require bilateral exploration.

**Keep a High Threshold for Invasive Procedures**

This STW has been prepared by experts and experts in the field of healthcare in India with evidence-based recommendations for the care of patients. These guidelines are evidence-based and are designed to assist clinicians in managing patients and are not intended to replace clinical judgment. Please consult your local healthcare provider for more information.

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