Umbilical Hernia

Pathology

- The umbilical defect is present at birth but closes as the stump of the umbilical cord heals, usually within a week of birth.
- This process may be delayed, leading to the development of herniation in the neonatal period. The umbilical ring may also stretch and reopen in adult life.

Umbilical Hernia in children

- occurs in up to 10% of infants, with a higher incidence in premature babies.
- Occurs commonly due to neonatal sepsis.
- The hernia appears within a few weeks of birth and is often symptomless, but increases in size on crying and assumes a classic conical shape.
- Sexes are equally affected but the incidence in black infants is up to eight times higher than in white.
- Obstruction and/or strangulation is extremely uncommon below the age of 3 years.

Clinical Features

- Swelling in the umbilical region.
- Swelling increased with crying.
- Occasionally- features of obstruction.

Investigations

- The diagnosis is rarely in doubt.
- If there is concern that a palpable lump may be a lipoma or subcutaneous tissue growth, then a CT scan can usually confirm the diagnosis.

Management

- Initially conservative management (<2years) with parental reassurance.
- In 93-95% of cases, it disappear spontaneously in few months after birth.
- Surgery- if umbilical hernia is persistent even after the age of 2 years or the defect is >2cm in size.

Umbilical Hernia in adults

- Conditions that cause stretching and thinning of the midline raphe (linea alba), such as pregnancy, obesity and liver disease with cirrhosis, predispose to reopening of the umbilical defect.
- Small umbilical hernias often contain extra peritoneal fat or omentum.
- Larger hernias can contain small or large bowel but, even when very large, the neck of the sac is narrow compared with the volume of its contents.
- As a result, in adults, umbilical hernias that include bowel are prone to become irreducible, obstructed and strangulated.

Clinical features

- Patients are commonly overweight with a thinned and attenuated midline raphe.
- The bulge is typically slightly to one side of the umbilical depression, creating a crescent-shaped appearance to the umbilicus.
- Women are affected more than men. Most patients complain of pain due to tissue tension or symptoms of intermittent bowel obstruction.
- In large hernias, the overlying skin may become thinned, stretched and develop dermatitis.

Management

- As a result of the high risk of strangulation, surgery should be advised in cases where the hernia contains bowel.
- Small hernias may be left alone if they are asymptomatic, but they may enlarge and require surgery at a later date.
- Surgery may be performed open or laparoscopically.

Principles of Surgical Repair

- Identify edges of hernial sac and reduce hernia.
- Small defects are usually repaired by an overlapping sutured repair using non-absorbable suture, e.g. 0 Prolene, without reinforcements; larger defects or recurrent hernias may be repaired with mesh (usually polypropylene-based, e.g. Prolene).

Emergency Repair

- Incarceration, bowel obstruction and strangulation are frequent because of the narrow neck and the fibrous edge of the defect in the midline raphe.
- Delay to surgery can lead to gangrene of the omentum or bowel.
- Large hernias are often multiloculated and there may be strangulated bowel in one component when other areas are clinically soft and a non-tender hernia.

Emergency Surgery

- In cases of simple incarceration without clinical evidence of strangulation, repair may be attempted laparoscopically but reduction of the contents can be very difficult if the hernia contains bowel.
- Most emergency repairs are performed by open surgery.
- In the presence of established strangulation it is unwise to place mesh at all because of the risk of infection.
- Alternatively, a two-stage repair could be planned: the hernia contents being dealt with initially with little attempt made to close the defect and then subsequent definitive mesh repair once sepsis has been controlled.