ABDOMINAL HERNIAS

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General roles of abdominal hernias

Hernia usually occurs due to the presence of a hole (defect) in the abdominal wall which may be acquired (epigastric, incisional or Para umbilical) or already present (oblique, femoral), in the former the presence of the defect initiates hernia while in the latter weakness of the surrounding supporting tissues is the initiating factor.

Two main factors control the force exerted over the abdominal wall: the tone of its muscles and the intra-abdominal pressure acting antagonistically. If the tone is proper the abdominal pressure can't give way and the intra-abdominal contents are kept in situ. In cases of herniation in spite of good muscle tone, the sac is usually preformed (congenital).

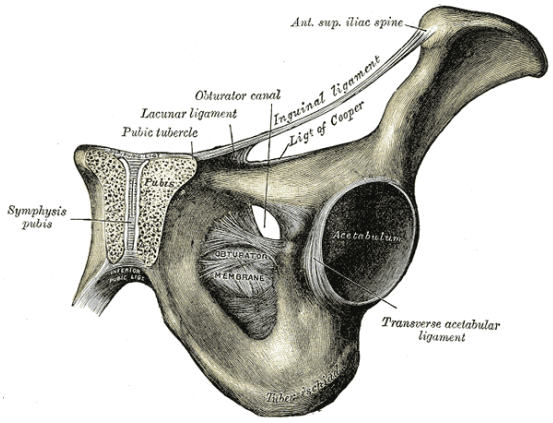
Repair of any abdominal hernia is based upon dealing with the herniated organs and repair of the underlying weakness and this repair must respect the anatomical and biophysical roles as possible.

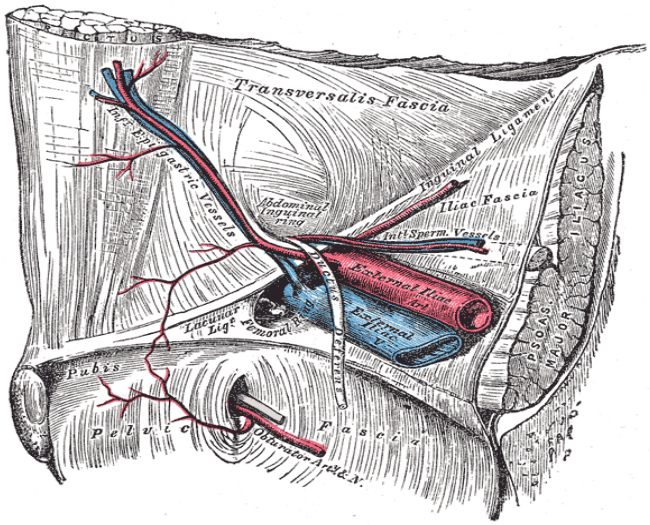
- *Any abdominal organ can be herniated in a sac (even the gravid uterus) except the pancreas which was not described in any type of hernia.*
- *As the herniated organ pass from a capacious cavity to a narrow one, it is liable for some form of complications as regarding its lumen or its blood supply (obstruction, strangulation, trauma).*
- *The omentum is the most common abdominal organ to be found in the hernial sacs followed by the small intestine and the colon.*
- *The common complications of the abdominal hernias are: irreducibility, obstruction of the gut lumen, strangulation of the blood supply, inflammation of its contents (appendix or diverticulum), traumatic rupture, hydrocele of the hernial sac, malignant changes in the sac.*
- *The most common types of the abdominal hernias are inguinal, umbilical, incisional, epigastric, femoral, lumbar, spigelian, sciatic, obturator.*
- *The first 4 are the most common while the last two are the rarest types.*

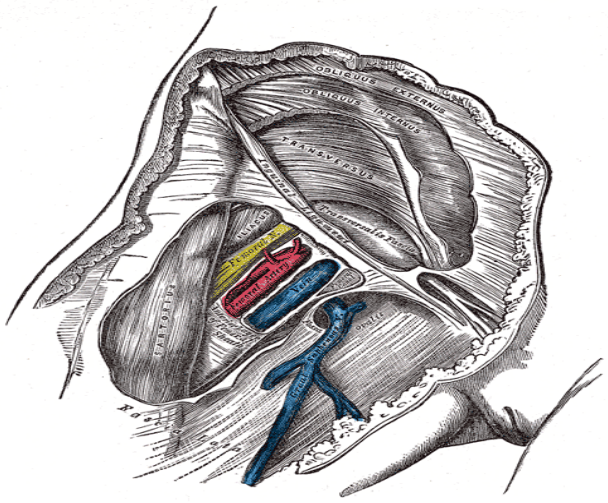
INGUINAL HERNIA

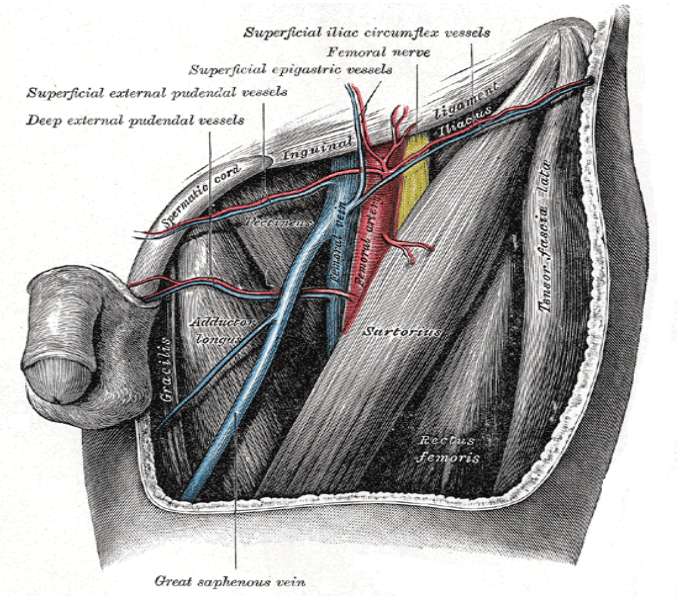
- *It is the most common type of abdominal hernias occurs as a congenital or acquired varieties. The acquired inguinal hernia may be: oblique, direct, combined, supra-pubic, sliding or recurrent.*
- **The congenital inguinal hernia: (CIH) is oblique in nature and may present at birth or shortly after it, it is more common in pre-term babies. It is more common in male babies, in females it is called (hernia of canal of Nuck). In the babies the inguinal canal is ultra-short so the superficial and the deep rings lie almost in apposition so we are not in need to open the canal during herniotomy. The pathogenic process is patent processus vaginalis so there is no weakness to be repaired thus the repair is just to excise the sac only. The approach to the congenital sac is either anterior approach through an inguinal or lower*

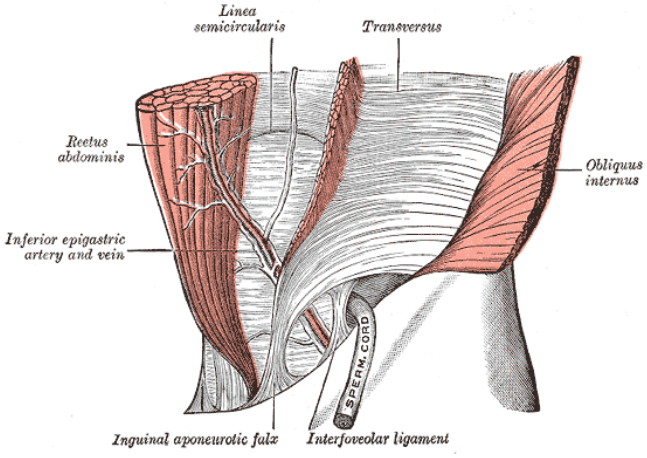
abdominal crease incision or posterior properitoneal approach through a Pfannenstiel or midline incision with the advantage of bilateral exploration and avoid cord manipulation with the resultant edema and hematoma.











- There is usually a swelling in her baby's groin increasing in size with crying and decrease (may disappear completely) during sleeping. The swelling usually descends in the scrotum, it may be bilateral in about 10%, we must check for the presence of both testes in the scrotum especially in preterm babies.
- No patience in the surgical ttt of CIH as the complications are more in the first 3 months and there is nil hope for the spontaneous closure of the sac.

Acquired Inguinal Hernia –oblique type-

- It is the most common of abdominal hernias in males, it is the hernia through the deep ing. ring, usually in the middle age(25-50), it begins as a small inguinal swelling that protrudes with effort and disappears on lying down, this may be preceded with sharp inguinal pain during sudden heavy exertion.
- The complications suspected are: *irreducibility, incarceration, strangulation, inflammation if it contains inflammable organs (appendix, diverticulum, tubes), hydrocele in the hernial sac, trauma with parietal rupture, malignant transformation of the sac.*

- To deal with oblique inguinal hernia you must consider three factors; contents, sac and defect. We usually try to preserve the contents and reduce it except if they are overcrowded like omentum so we excise it or non viable in strangulated loops of intestine so we resect it. As regard the sac, most of surgeons believe that excision is the only way to deal with it but others do inversion of the sac into the peritoneal cavity as it moulds and is engaged within the general peritoneal cavity but high dissection of the sac is mandatory.
- As regard the defect, the role is to tighten the internal ring and to strengthen the posterior inguinal wall, this can be achieved in many ways.
- The classical ways are to duplicate or plicate the fascia transversalis (Shouldice), suturing the Tve aponeurotic arch to the ilio-pubic tract(McVay), suturing the conjoint complex to the inguinal ligament and the f. transversalis (Bassini), to block the canal and superficialization of the cord(Halsted I) or narrowing of the deep ring around the cord (Marcy).

All these methods apply tense sutures with the resultant ischemia and necrotic changes of the tissues involved in the sutures, so the recurrence rate was recorded to be as high as 30% in some series, so the tendency to use tension-free repairs has become the mastering tendency.
Tension free repairs preserve the anatomy so the biological protective mechanisms essentially the shuttering.
Tension free repairs include:Lichtenstein, Gilbert, Rutkow, Stoopa, laparoscopic repairs.
We can speak in general about the repairs of the inguinal hernias as anterior and preperitoneal, the latter carries the advantages of being more exploratory, suiting the recurrent types, doesn't disturb the anatomy of the canal, utilizing the space of Bogros with its high ability to absorb serum and blood.

Inguinal hernia-direct type
It the hernia through the Hasselbach triangle which lies medial to the inferior epigastric vessels, it is further divided into medial and lateral compartments by the lateral umbilical ligament. Hernia through the medial compartment is called the Oglivier hernia.
Direct hernia usually indicates weakness of the abdominal wall so usually found in old people. It is common to be bilateral and rare to descend into the scrotum.
Repair of direct hernias carries the same roles of the oblique type but contents are much more easy to deal with and the sac can usually be inverted.
Repairing of the direct hernia usually necessitates thorough abdominal examination for masses or ascites and dealing with straining causes such as BPH, COPD, constipation,