University of Al-Ameed / College of Medicine
Department of Surgery

Specific Hernia Types

Ass. Prof Dr. Abdulrazzak Kalaf Hassan
Consultant General Surgeon / Head of surgical department
E-mail: abdulrazzak2006@yahoo.com
2020-2021

Inguinal Hernia

Is the most common hernia in men & women but much more common in men.

There are two basic types which are fundamentally different in anatomy, causation & complications.

However, they are anatomically very close to one another, surgical repair techniques are very similar & ultimate reinforcement of the weakened anatomy is identical so they are often referred to together as inguinal hernia.

:Basic anatomy of inguinal canal

:Superficial inguinal ring

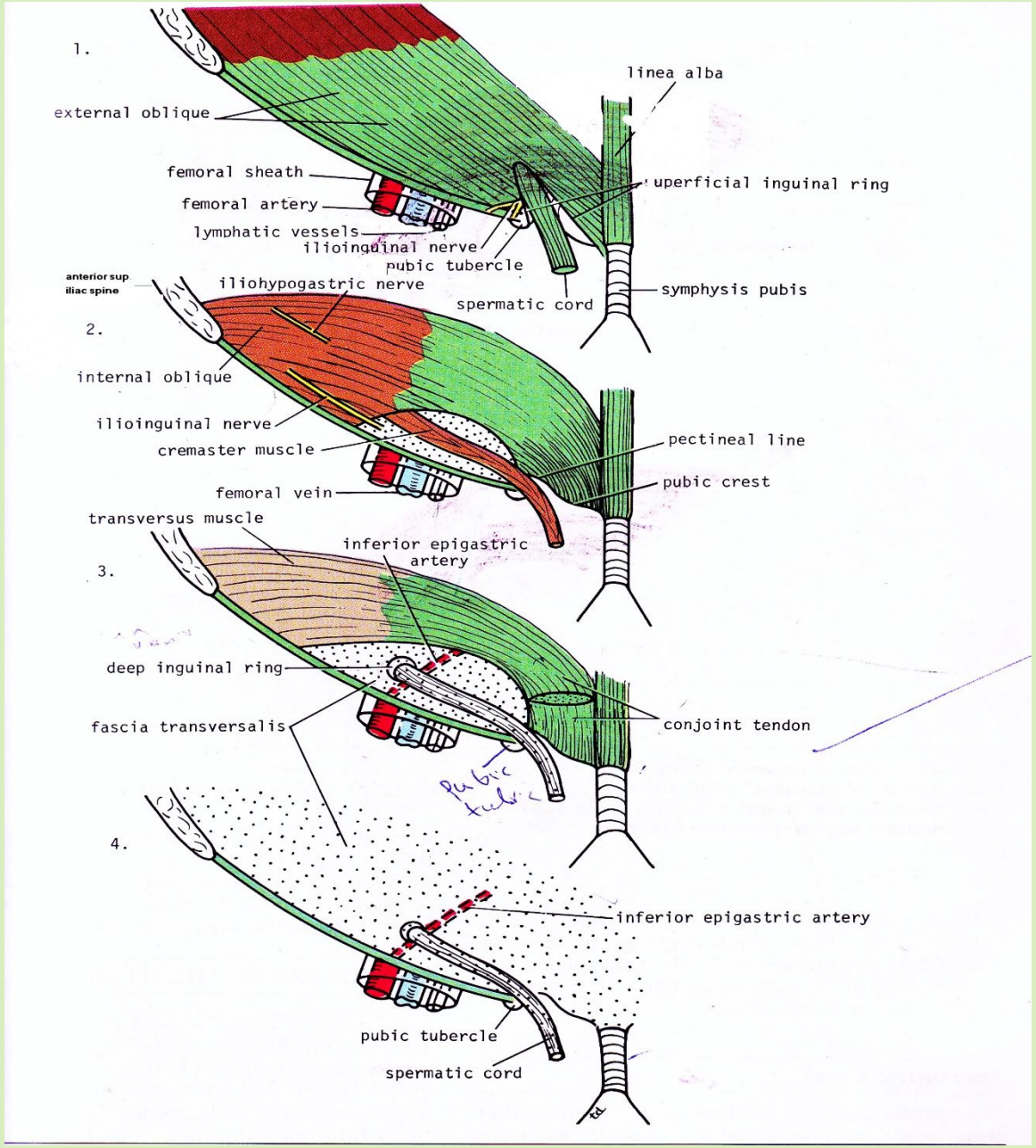
above Triangular opening in external oblique aponeurosis 1.25 cm the public tubercle (Normally the ring will not admit the tip of the .little finger)

:Deep inguinal ring

U-shaped opening in transversalis fascia 1.25cm above the mid .inguinal ligament

:Inguinal canal

In infant deep & superficial inguinal ring are almost superimposed, but in adult it is 3.75cm long & directed .downwards & medially from deep to superficial ring


1.
external oblique
linea alba
femoral sheath
femoral artery
lymphatic vessels
ilioinguinal nerve
pubic tubercle
superficial inguinal ring
spermatic cord
symphysis pubis
anterior sup iliac spine
iliohypogastric nerve
2.
internal oblique
ilioinguinal nerve
cremaster muscle
femoral vein
pectineal line
pubic crest
transversus muscle
inferior epigastric artery
3.
deep inguinal ring
fascia transversalis
conjoint tendon
4.
inferior epigastric artery
pubic tubercle
spermatic cord

:Boundaries of the canal

Anteriorly: Ext. oblique aponeurosis conjoined muscle laterally.

Posteriorly: Transversalis fascia, conjoined tendon medially.

[Conjoined tendon is made by the fused common insertion of the internal oblique & transversus into the public crest.]

Superiorly: Conjoined muscles.

Inferiorly: Inguinal ligament.

:Contents of the inguinal canal (spermatic canal)

*:Three layers of fascia **

.External spermatic fascia from ext.O.apon (1)

Cremasteric muscle & fascia from Int.O.M. (2)

. (3) Internal spermatic fascia from trans. fascia

*:Three arteries **

.The testicular artery from aorta (1)

.The Cremasteric artery from inf. epigastric artery (2)

.The artery of the vas from inf. vesical A (3)

*:Three nerves **

.ilio-inguinal nerve (1)

.iliohypogastric (2)

. genital branch of the genitofemoral N (3)

*:Three other structures **

.The vas deference (1)

The pampiniform plexus of veins (the R. testicle to IVC, L (2)
.testicle to the L renal V. vein)

.Lymphatics drain the testis to the aortic lymph nodes (3)

:In female the inguinal canal contains

- Round ligament of the uterus.
- ilio-inguinal nerve.
- Genital branch of genitofemoral nerve.

:Types of Inguinal Hernia

1- Indirect inguinal hernia (LATERAL) (OBLIQUE)

. Direct inguinal hernia (MEDIAL) -2

.Sliding hernia -3

Occasionally, both lateral & medial hernias are present in the .same patient (*pantaloons hernia*)

Diagnosis Of An Inguinal Hernia

In most cases, the diagnosis of an inguinal hernia is simple & patients often know their diagnosis as they are so common.

Often the hernia will reduce on lying & reappear on standing.

With the patient lying down, Once reduced, surgeon identifies the bony landmarks of the anterior superior iliac spine & pubic tubercle to landmark the deep inguinal ring at the mid-inguinal point.

Gentle pressure is applied at this point & patient asked to cough.

If hernia is controlled with pressure on the deep inguinal ring then it is likely to be indirect / lateral & if hernia appears medial to this point then it is direct / medial.

Investigations For Inguinal Hernia

Most cases require no diagnostic tests, But:

- **US.**
- **CT scan.**
- **MRI scan are occasionally used.**
- **A herniogram involves the injection of contrast into the peritoneal cavity followed by screening which shows the presence of a sac or asymmetric bulging of inguinal anatomy.**

Management of Inguinal Hernia

It is safe to recommend no active treatment in cases of early, asymptomatic, direct hernia, particularly in elderly patients who do not wish surgical intervention.

These patients should be warned to seek early advice if the hernia increases in size or becomes symptomatic.

Surgical trusses are not recommended but may be required for occasional patients who refuse any form of surgical intervention.

Elective surgery for inguinal hernia is a common & simple operation.

It can be undertaken under local, regional or general anaesthesia.

Operations for inguinal hernia

A: Herniotomy. & B: Repair (herniorrhaphy):

I: Open repair:

1- Bassini, Shouldice, Desarda.

2- Open mesh repair: Lichtenstein.

II: Laparoscopic repair:

1- TEP. 2- TAPP.

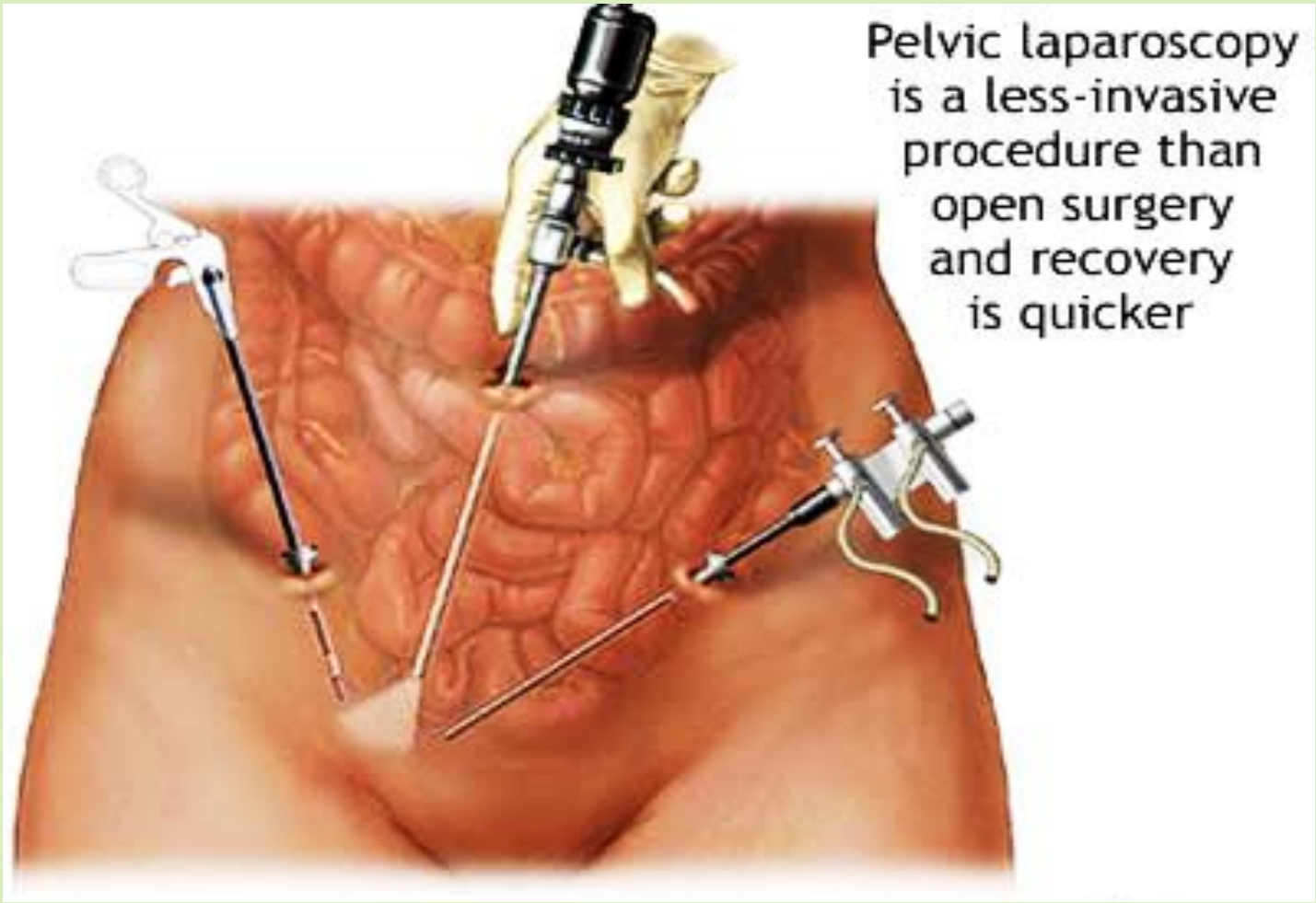
Laparoscopic Herniorrhaphy Of Inguinal Hernia

:Trans-abdominal approach (TAPP)

Establishes a pneumoperitoneum & place a synthetic mesh preperitoneally by dissecting the peritoneum off the hernial orifices & positioning the mesh beneath the peritoneum before .closing the peritoneum over the mesh

:Preperitoneal approach (TEP)

The preperitoneal plane is opened by either balloon dissection or direct dissection via paraumbilical incision, the hernial orifices can be identified bilaterally & any hernial sac reduced & placing a .large mesh over the hernial orifices in preperitoneal plane


Pelvic laparoscopy
is a less-invasive
procedure than
open surgery
and recovery
is quicker

Emergency inguinal hernia surgery

Ninety-five per cent of inguinal hernia patients present at clinics & only 5 per cent present as an emergency with a painful irreducible hernia which may progress to strangulation & possible bowel infarction

Complications of inguinal hernia surgery

- ***Early:*** pain, bleeding, urinary retention, anaesthetic related.
- ***Medium:*** seroma, wound infection.
- ***Late:*** chronic pain, testicular atrophy.

Femoral Hernia

- Less common than inguinal hernia.
- It is more common in females than in males.
- Easily missed on examination.
- Fifty per cent of cases present as an emergency with very high risk of strangulation.

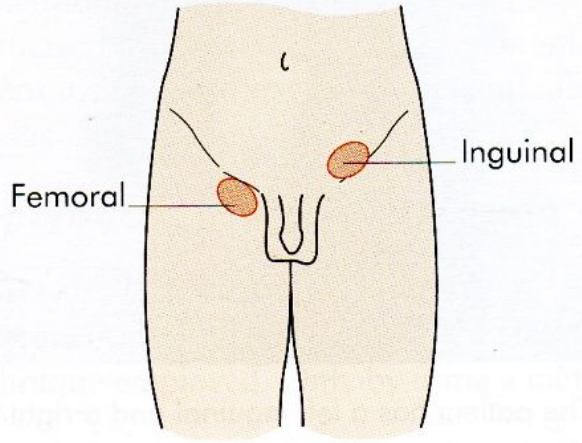
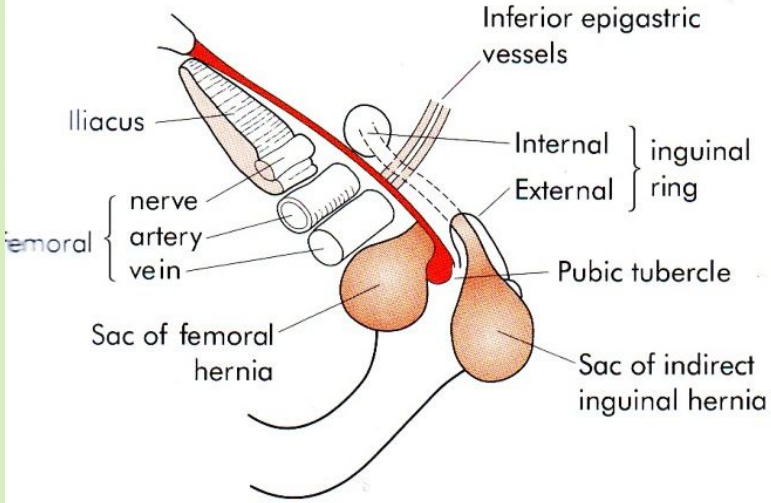


Figure 73.14 The essentials of differential diagnosis between a femoral and an inguinal hernia (as in Fig. 73.13).

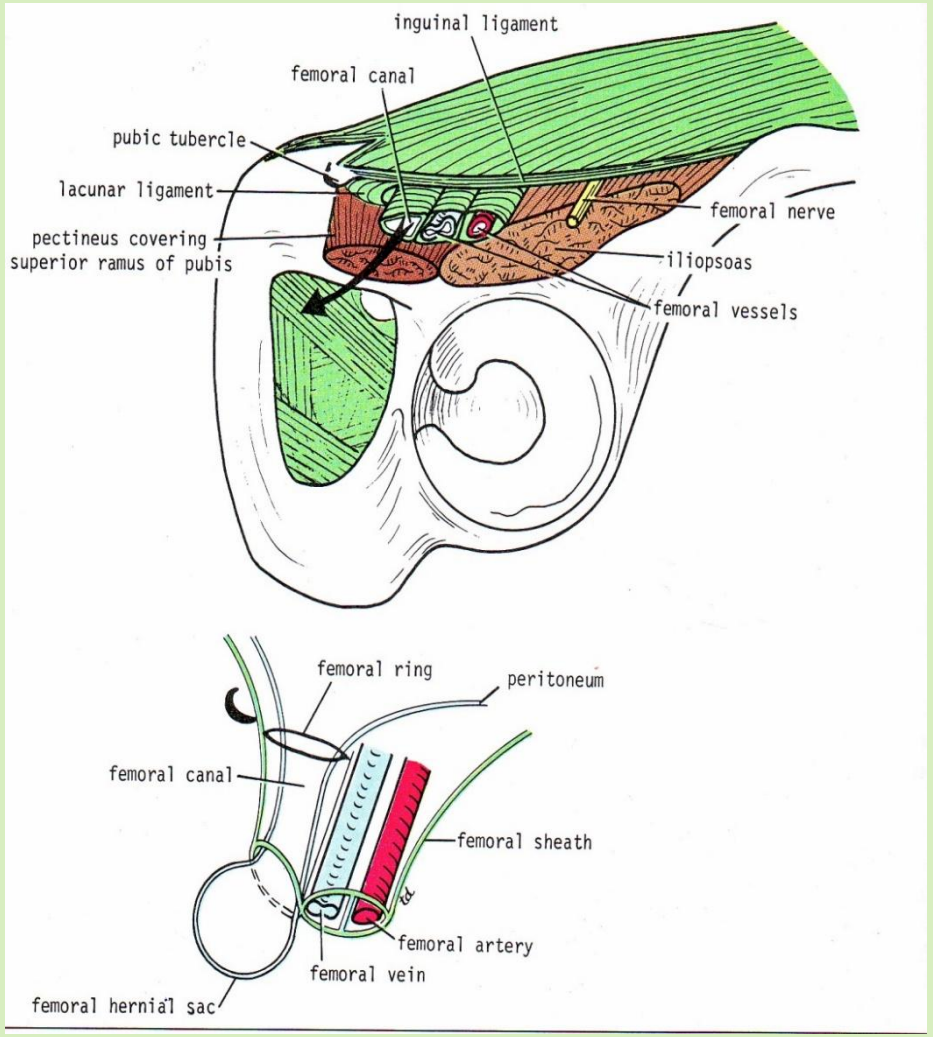


73.4 The relationship of an indirect inguinal and a femoral to the pubic tubercle; the inguinal hernia emerges above and to the tubercle, the femoral hernia lies below and lateral to it.

:Surgical Anatomy

Femoral canal occupies the most .medial part of the femoral sheath

It extends from the femoral ring above .to the saphenous opening below



.It is 1.25cm long & 1.25cm wide at its base

:Femoral canal contains

- Fat.
- Lymphatic vessels.
- & Cloquet's lymph nodes.

:Boundaries Of The Femoral Ring

.***Anteriorly***: inguinal ligament

Posteriorly: Astley Cooper's .(iliopectineal) ligament, pubic bone

.***Medially***: lacunar ligament (Gimbernat's)

Laterally: femoral vein.

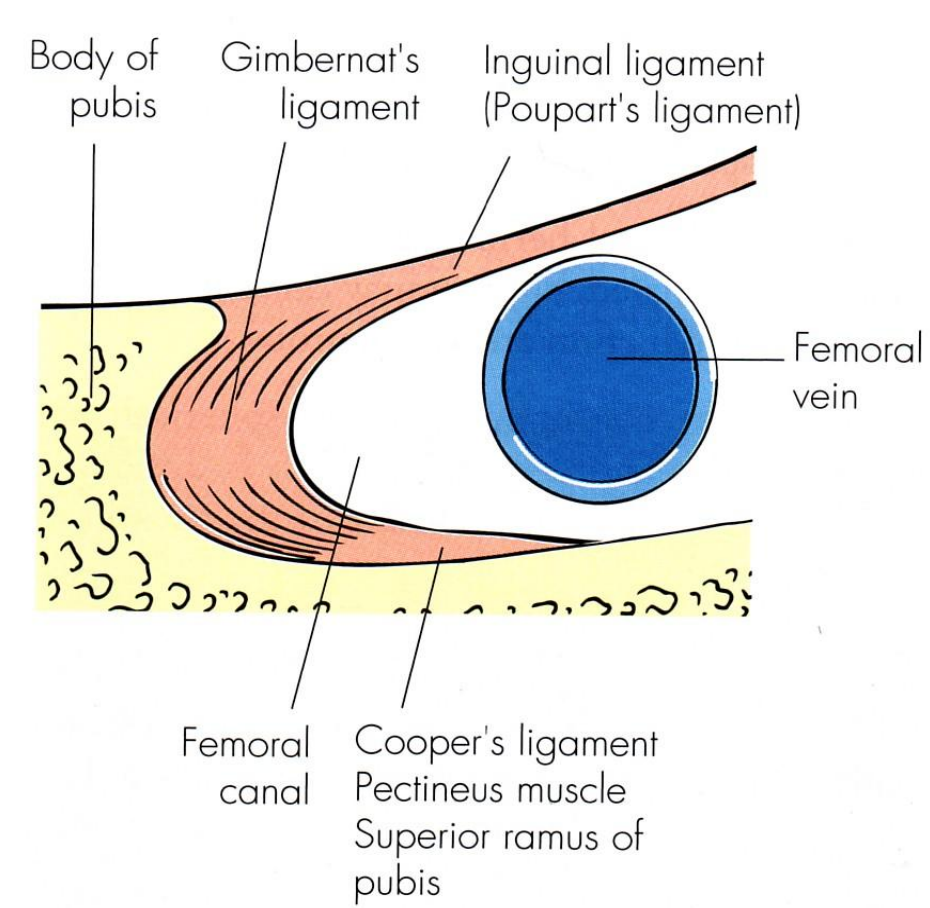


FIG 14.9 The boundaries of the left femoral canal.

: Diagnosis

Diagnostic error is common & often leads to delay in diagnosis & .treatment

Hernia appears below & lateral to the pubic tubercle & lies in the .upper leg rather than in the lower abd

Inadequate exposure of this area during routine examination .leads to failure to detect the hernia

Hernia often rapidly becomes irreducible & loses any cough .impulse due to the tightness of the neck

.It may only be 1–2 cm in size & can easily be mistaken for a lymph node

As it increases in size, it is reflected superiorly & becomes difficult to distinguish from a medial direct hernia which arises only a few .centimetres above the femoral canal

A direct inguinal hernia leaves the abdominal cavity just above the .inguinal ligament & a femoral hernia just below

:Differential Diagnosis

- Direct inguinal hernia.
- Lymph node.
- Saphena varix.
- Femoral artery aneurysm.
- Psoas abscess.
- Rupture of adductor longus with haematoma.

Investigations

In routine cases, no specific investigations are required.

- US
- CT
- plain x-ray: small bowel obstruction.

:Treatment

There is no alternative to surgery for femoral hernia.

it is wise to treat such cases with some urgency.

Three open approaches & laparoscopic approach

:Low approach (Lockwood) .1

Simplest operation but only suitable when there is no risk of .bowel resection

.A transverse incision is made over the hernia -

.Sac is opened & its contents reduced -

.Sac also reduced -

Non-absorbable sutures placed between the inguinal ligament -

.above & the fascia overlying the bone below

.Femoral vein, lateral to the hernia, needs to be protected

Some surgeons place a mesh plug into the hernia defect for .further re-enforcement

:Inguinal approach (Lotheissen's operation) .2

.Through an inguinal incision *

A femoral hernia lies immediately below this incision & can be * reduced by a combination of pulling from above and pushing .from below

.The layers are closed as for inguinal hernia *

:High approach (McEvedy) .3

This more complex operation is ideal in the emergency * situation where the risk of bowel strangulation is high

Horizontal incision (classically vertical) is made in the lower * .abdomen centred at the lateral edge of the rectus muscle

Anterior rectus sheath is incised & the rectus muscle * .displaced medially

* Femoral hernia is reduced & sac opened to allow careful inspection of the bowel.

* Femoral defect is then closed with sutures, mesh or plug.

* This approach allows a generous incision to be made in the peritoneum which aids inspection of the bowel & facilitates bowel resection.

* Laparoscopic approach

Both the TEP & TAPP approaches can be used for femoral hernia & a standard mesh inserted.

This is ideal for reducible femoral hernias presenting electively but not in emergency cases nor for irreducible hernia.


Thank You