This site is used because it is—
- Most dependent aspiration.
- Unlikely to traumatize heart.
- Pleura is not punctured.
- Coronary vessels are not injured.

Presently U/S guided aspiration is commonly done. Procedure should be done under ECG monitor.

Complications
- Injury to heart causing bleeding/ventricular fibrillation.
- Infection.

CARDIAC TAMPONADE

Accumulation of fluid or blood in the pericardial space causing increase in the ***intrapericardial pressure*** is called as cardiac tamponade.

Causes
- Trauma.
- Progressive pericardial effusion due to tuberculosis, viral, bacterial infections.
- Often uraemia can cause significant pericardial effusion.

Clinical Features
- Widened cardiac dullness and hypotension.
- Muffled or decreased heart sounds.
- Increased venous pressure with raised jugular veins.
- Pulsus paradoxus. (pulse becomes weaker on inspiration than expiration).
- In severe cases, heart is unable to expand causing *shock and often sudden death.*

Investigation
Chest X-ray and U/S confirms the diagnosis. ECG—altered QRS complex.

Treatment
- ***Pericardial tap*** as early as possible to allow heart to expand adequately.
- Occasionally ***open pericardiotomy*** is required.

PERITONEAL TAP

Indications
- For diagnosis—abdominal tuberculos peritoneal secondaries, ascitic fluid stu
- For therapy—in massive Ascites to reli distress by removing fluid—in malignan portal hypertension.

Site
In the spinoumbilical line lateral to rec abdominis muscle.

Procedure
Patient is asked to empty the urinary bladd Abdomen is percussed to confirm the dullne in the flank. Site of tapping is marked. Site below the umbilical level away from the later margin of the rectus muscle. Xylocaine 1 injection local anaesthetic is infiltrate 20 gauge needle is inserted into the peritone cavity. Ascitic fluid comes into the syring Syringe is connected to the 3 way stopcock have controlled tapping.

For diagnostic purpose 50 ml of fluid aspirated. Fluid is sent for culture/cytology AFB/biochemical analysis.

To relieve distress 1500 ml/day is aspirated If more quantity is a aspirated sudden hypo tension and cardiac arrest can occur. It is alway safer to do procedure with an intravenous lin with IV fluids flowing.

Complications and Difficulties
- Infection and peritonitis.
- Bleeding—haemoperitoneum.
- Bowel injury.
- Negative tapping—In loculated ascites due to (commonly) abdominal tuberculosis, fluid may not get and so ultrasound guidance is needed to get fluid.
- In females tense Ascites should be differentiated from large ovarian cyst before tapping.

SECTOMY

ations

r family planning purpose. Consent both rtners is needed. Look for any hernia/ drocele—if present vasectomy should be ne along with specific surgeries for these nditions.

reviously while doing prostatectomy sectomy is done to prevent retrograde fection of testes.

specific diseases like tuberculosis of vas, sectomy may be done for biopsy purpose.

here are no specific contraindications for sectomy but if patient is having hernia or drocele, it is better to do vasectomy along with surgery for hernia or hydrocele.

s

ls

lassical method—Scalpel technique

lo scalpel technique (Shunqiang Li- China)

cal method— After cleaning and draping, l of xylocaine plain 1% is injected into root e scrotum lateral aspect. Skin, dartos are ed (2-3 cm vertical incision). Once spermatic is incised cord structures are identified. deferens is felt as thickened whitish cord tructure. It is dissected using mosquito artery ps. It is held using Babcock's forceps as outside the wound. Vas is clamped in two rent places with a gap in between using artery forceps. A piece of the vas (5 mm) cised. Cut ends are ligated using non-tbable sutures like silk. Skin is closed with res. Procedure is repeated on the other side. sing is placed. Sutures removed after 7 days.

calpel technique—Two special instruments are d here. An extracutaneous ring clamp and ngquing's sharpened curved mosquito clamp. r cleaning and draping, xylocaine 2 % of 2-3 s injected under the skin of midline raphe imal aspect. Vas deferens of one side is felt and hed under the raphe. It is carefully held with acutaneous ring clamp. Skin is incised using p tip of the curved mosquito clamp. Whitish cord like vas which is held with ring clamp is dissected- clamped- a small piece of 5 mm is cut. Cut ends are ligated using silk. Opposite vas is also similarly brought into the same wound by manipulation and clamped and ligated after cutting. Skin is not closed. It gets apposed automatically and heals on its own. Often two separate approaches can be used for each side.

Postoperatively antibiotics and analgesics are given.

Advice: Contraception should be used to have protected intercourse for a minimum 6 weeks/ 15 ejaculations.

Complications of Vasectomy

- Infection, pyocele.
- Bleeding, haematoma, haematocele.
- Sperm granuloma.
- Recanalisation and failure.

VASO-VASOSTOMY (RECANALISATION PROCEDURE)

Indications

Patient who has underwent vasectomy earlier if needs fertility (one more child) again.

Technique

Under general/spinal anaesthesia incision over the front of the scrotum is made. Cord is dissected. Cut ends of the vas are identified. Both ends are carefully mobilized. Cut ends are trimmed to see the clear lumen. Fine 3 zero polypropylene suture material is passed through the lumen to act as a stent. Cut ends are sutured using polypropylene continuous sutures. Stent is brought out through vas and through scrotal skin away from main wound. Skin is closed with sutures. Procedure is commonly done on both sides. stent is kept for 3 weeks and removed. Success rate of vaso-vasostomy is 30%.

Complications

- Infection.
- Failure.

STOMA CARE

Definition of Stoma

Stoma is an artificial opening or 'mouth like' to the exterior, the abdominal wall so as to drain the content from the tubular structures inside, like bowel or ureter. It is done for diversion of urine or faecal matter in case of malignancy, trauma, and sepsis or after surgery.

Types

Ileostomy: Terminal 5 cm ileum is projected out, on to the skin of abdominal wall to drain semi-liquid, faecal matter.

Colostomy: Colon at different levels, as required can be brought out to the skin as colostomy, to divert faecal matter.

Cutaneous ureterostomy: Cut ends of one or both ureters are apposed to the skin of abdominal wall.

Ileal urinary conduit: Segment of isolated ileum can be used to drain urine from the ureter as urinary ileal conduit. Ureters are anastomosed to a closed ileal conduit. Ileal stoma is brought out as stoma. Different types of continent ileostomies are in use to prevent leak, soakage and discomfort.

Vesicostomy: It is done in children. Here anterior bladder wall is brought out and bladder mucosa is sutured to the skin of abdominal wall.

Stoma created may be round (commonly) or square in shape.

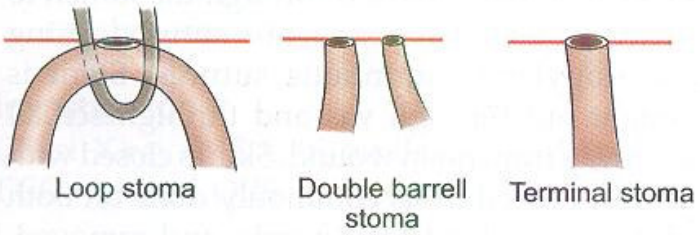

Fig. 7.21: Different types of stoma.

Preparation and Counselling of the Patient for Stoma

- Stoma of any type causes to certain extent of psychological and physical trauma to the patient, as it is nonphysiological, distressing and socially not acceptable.
- Patient should be explained about the procedure and should be convinced and consoled about the stoma.
- Detailed meaning, explanation and after care of the stoma should be discussed.
- Indication for the stoma and consent for the same should be taken.
- Reassurance about the stoma, its care, and its position should be diagrammatically explained to the patient and his close relative.
- In case of obstructive disease, stoma is done as an inevitable procedure to relieve the obstruction often it may be temporary.
- Proper bowel preparation by bowel wash, gut irrigation is required before surgery.
- The surgeon selects the site of the stoma. Nurse should be there with surgeon. Stoma is usually sited midway between anterior superior iliac spine and umbilicus.
  - It should be away from the belt line.
  - It should be away from the scar, creases, and bony points.
  - Patient should be assessed for proper size, adequacy for stoma in lying down, sitting, and standing positions.
  - Proper stoma appliances should be decided after thorough check up and discussion with patient and patient's relative.
  - Stoma site should be marked properly before surgery.
  - Ileostomy is usually sited on the right iliac fossa, colostomy on left iliac fossa.
  - Allergy for the particular appliances should be checked for.
  - The patient should consult stoma therapist.

Postoperative Care for the Stoma

- Stitches are removed in 6-10 days.
- Dressing should be done first over the stoma and after placement of appliance, laparotomy wound is dressed otherwise stoma appliance will not sit properly.
- Patient should be observed for any complications.

Once wound has healed patient can take bath by removing the appliances. After bath skin is dried up and stoma appliances can be fit again.
Patient should be taught about the stoma care and its appliances.
Care and prevention of skin excoriation due to leak is also looked into.
Psychotherapy is given for the patient.
Skin should be absolutely dry prior to placing the stoma appliances.

Complications of Stoma

Skin excoriation.
Mucosal prolapse
Stenosis and block.
Infection either bacterial or candidial.
Diarrhoea due to irritation.
Leak due to improper fitting of the appliances, scar, irregularity of stoma, prolapse.
Bleeding from the stoma edge.
Herniation of the abdominal contents adjascent to stoma.

Skin Excoriation

is a major problem in stoma patients. It is typically due to leak adjascent to appliances.

Causes for excoriation:

Leak due to improper appliances.
Wet skin before placing the appliance.
Inadequate stoma hole.
Improper and inadequate adhesive sheet usage.
Allergy
Infection like of bacteria and Candida.
Altered weight of the patient.
Stoma bag is overfilled or kinked or air in the stoma bag.

Treatment of excoriation

Control of infection by antibiotics or control of moniliasis.
Allergy has to be confirmed, and if it is the cause the agent is found out and treated as required.
Zinc oxide cream application.
- Change of the type of appliance.
- Refashioning of the stoma.

Stoma Appliances

Stoma appliances are devices, which are used to collect and dispose the effluent materials which come out of the stoma.

Ideal Stoma Appliance

It is:
- Leak proof.
- Should not damage the stoma and surrounding skin.
- Should prevent odor.
- Should be available.
- Easier to use.

Types of Appliances

It can be—
- Closed type is discarded when full and is used in patients with well formed stool.
- Drainable type is used in patients with loose liquid stool. It can be emptied and retained and re used. Immediately after colostomy, drainable appliance is used. Later it can be changed over to closed type.

It can also be—
- One-piece stoma appliance with a bag and adhesive attached system, which adheres to skin around the stoma.
- Two-piece stoma appliance has got a flange with adhesive system and a bag over it, which can be removed and replaced with a new one without disturbing the flange underneath.

Bag can be—
- Transparent, in which fluid can be visualized. It is used in initial period of the stoma.
- Opaque, in which fluid cannot be visualized. It is used eventually later.

General Care and Advice to Patients with Stoma

- Patient can have normal diet. Diet, which regulates the bowel action, is better. Plenty of water is advisable.
- Patient can go for normal work, exercise like sports, swimming, tennis. Stoma appliances suitable for these works are available.