SURGERY COLLABORATIVE AND LONG-TERM PRACTICAL EXPERIENCE LEARNING

SCALPEL

ANASTOMOSIS AFTER RIGHT HEMICOLECTOMY – TECHNIQUES AND UNUSUAL COMPLICATION

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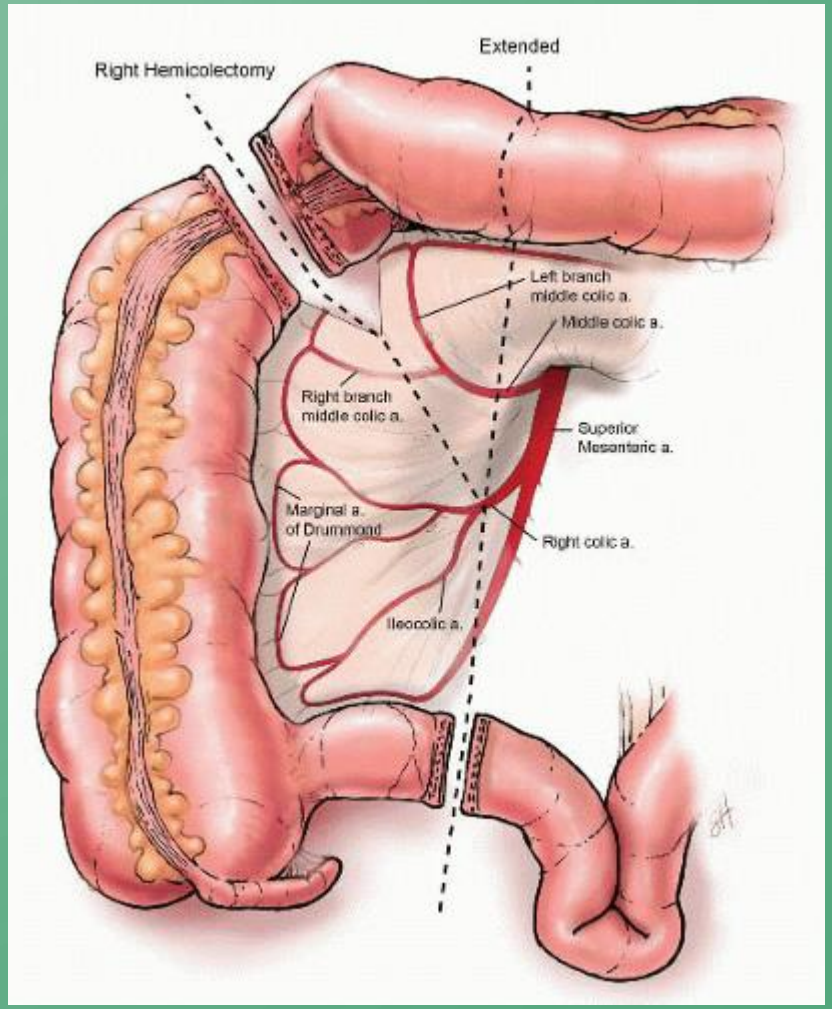
RIGHT HEMICOLECTOMY

- One of the most common colorectal procedures
- Removes right colon and distal part of the ileums
- Used mainly for treatment of right colon cancer, but also for Cohn's disease complications, large polyps and abscesses
- May be extended depending on localization of pathology



CASE REPORT

74 YEARS OLD LADY PRESENTED TO ER WITH SEVERE ANEMIA (HGB=76 G/L)

HISTORY: DIABETES TYPE 2 (ON INSULINE), HA, ISCHEMIC CARDIOPATHY, ADIPOSITAS (BMI 32)

GASTROINTESTINAL EVALUATION WAS INITIATED

COLONOSCOPY SHOWED INFILTRATIVE TUMOR AT THE LEVEL OF CECUM-LATERAL WALL

CT SHOWED NO SIGNS OF METASTASES OR LOCAL INFILTRATION, NO LYMPHADENOPATHY

SURGERY WAS INDICATED - RIGHT HEMICOLECTOMY WITH COMPLETE MESOCOLIC EXCISION

SURGERY

ANEMIA WAS CORRECTED

MEDIAN LAPAROTOMY

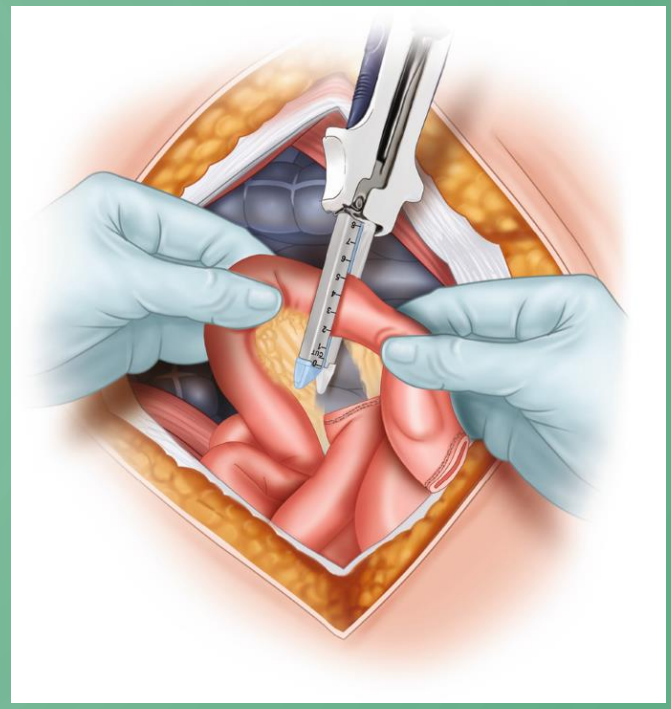
NO SIGNS OF LOCAL INFILTRATION, LIVER CLEAN, NO SIGNS OF OBSTRUCTION

STANDARD RIGHT HEMICOLECTOMY WITH CME WAS DONE

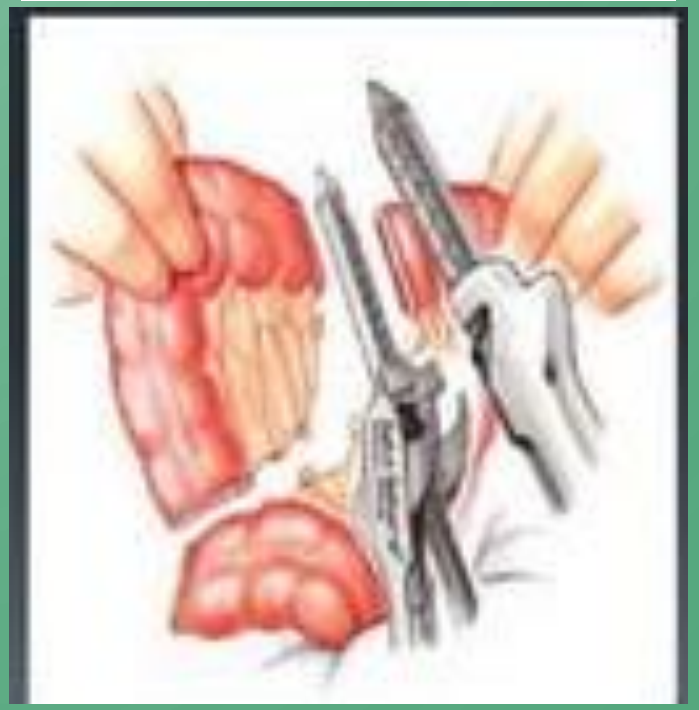
NO SIGNS OF OBSTRUCTION OR DILATATION SO DECIDED TO PROCEED WITH PRIMARY ANASTOMOSIS

ANASTOMOSIS

ILEUM WAS TRANSECTED WITH GIA STAPLER 15CM FROM ILEOCECAL VALVE



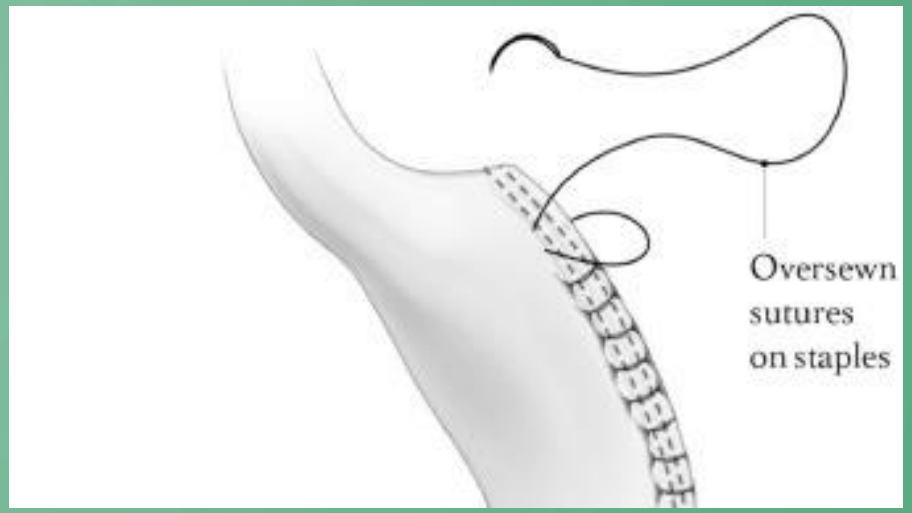
COLON TRANSVERSUM WAS TRANSECTED WITH GIA STAPLER IN THE MIDDLE THIRD (LEFT BRANCH OF MCA PRESERVED)

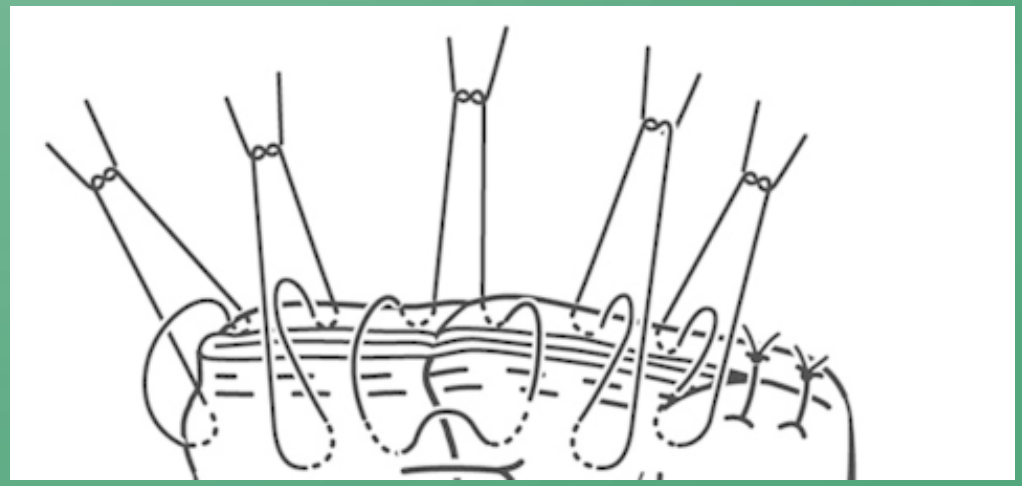


ANASTOMOSIS

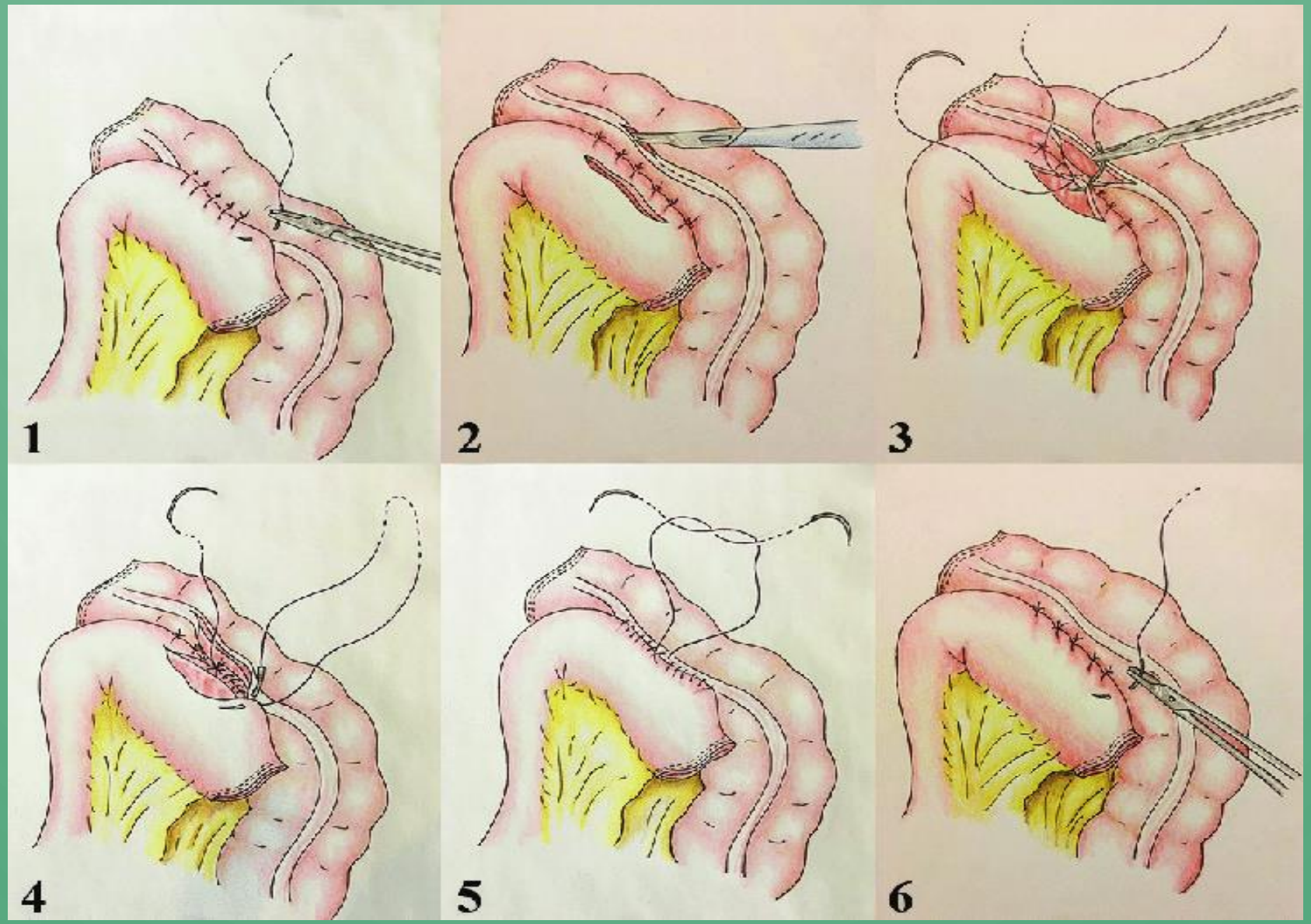
SPECIMEN WAS REMOVED

BLIND SIDES OF ILEUM AND COLON WERE OVERSEWED WITH 3-0 MONOPLUS





TWO LAYER LATERO-LATERAL HAND SEWN ANASTOMOSIS-ISOPERISTALTIC



POSTOPERATIVE COURSE

- 2 days in ICU
- Bowel movements after 3 days
- No complications
- Discharged on POD 7- normal inflammatory marker, afebrile
- Follow up at 1month. Normal local status no complaints.
- PHD- Adenocarcinoma (pT3N0)
- Follow at 2 months
  -no complaints, tolerates oral nutrition, body mass stabile

4 MONTHS AFTER SURGERY

The patient visited ER for pain in the right abdomen, afebrile no other symptoms, She had fall and trauma to this part of abdomen 10 days prior to ER visit

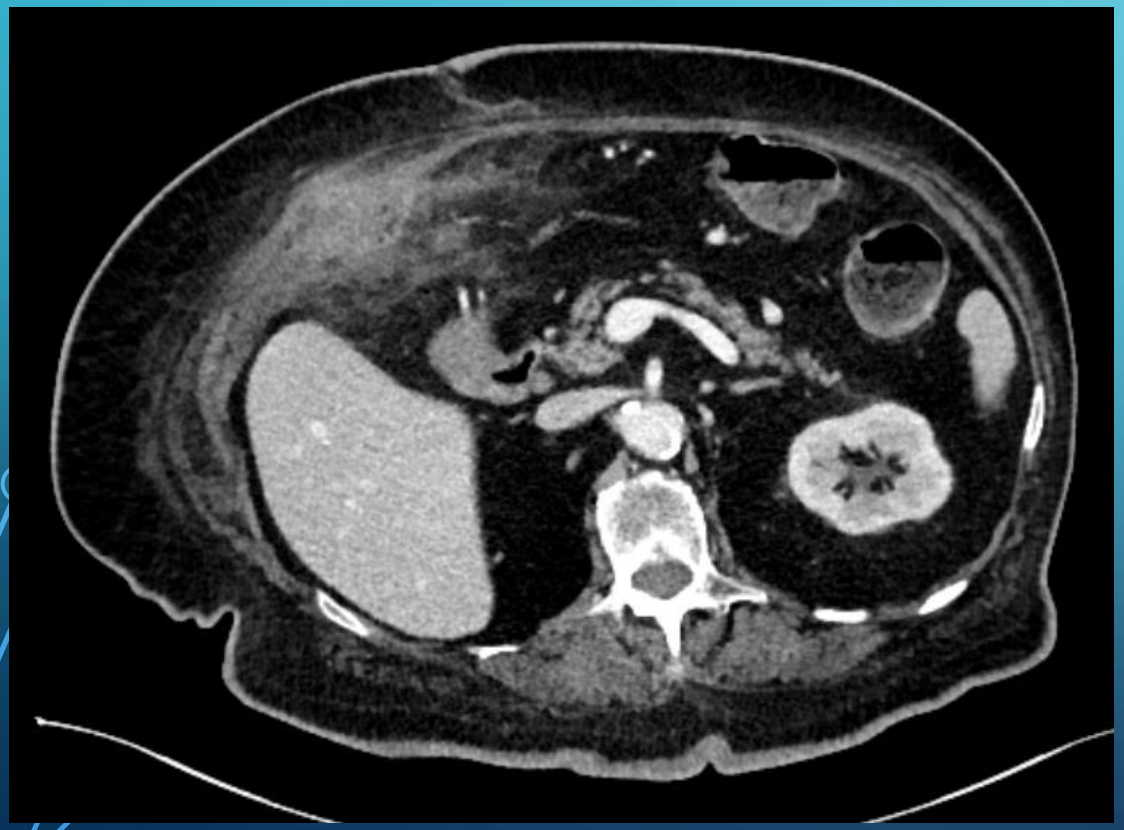
L- 10.1

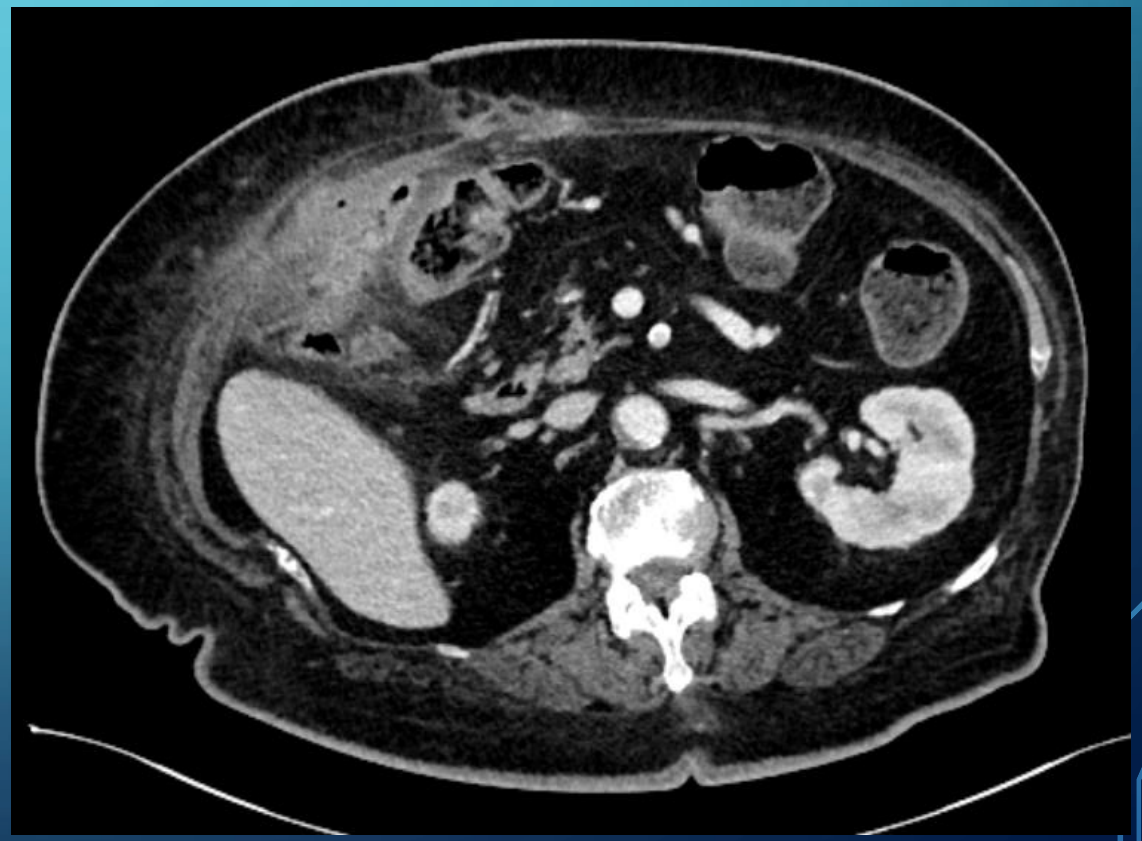
CRP 175 mmol/L

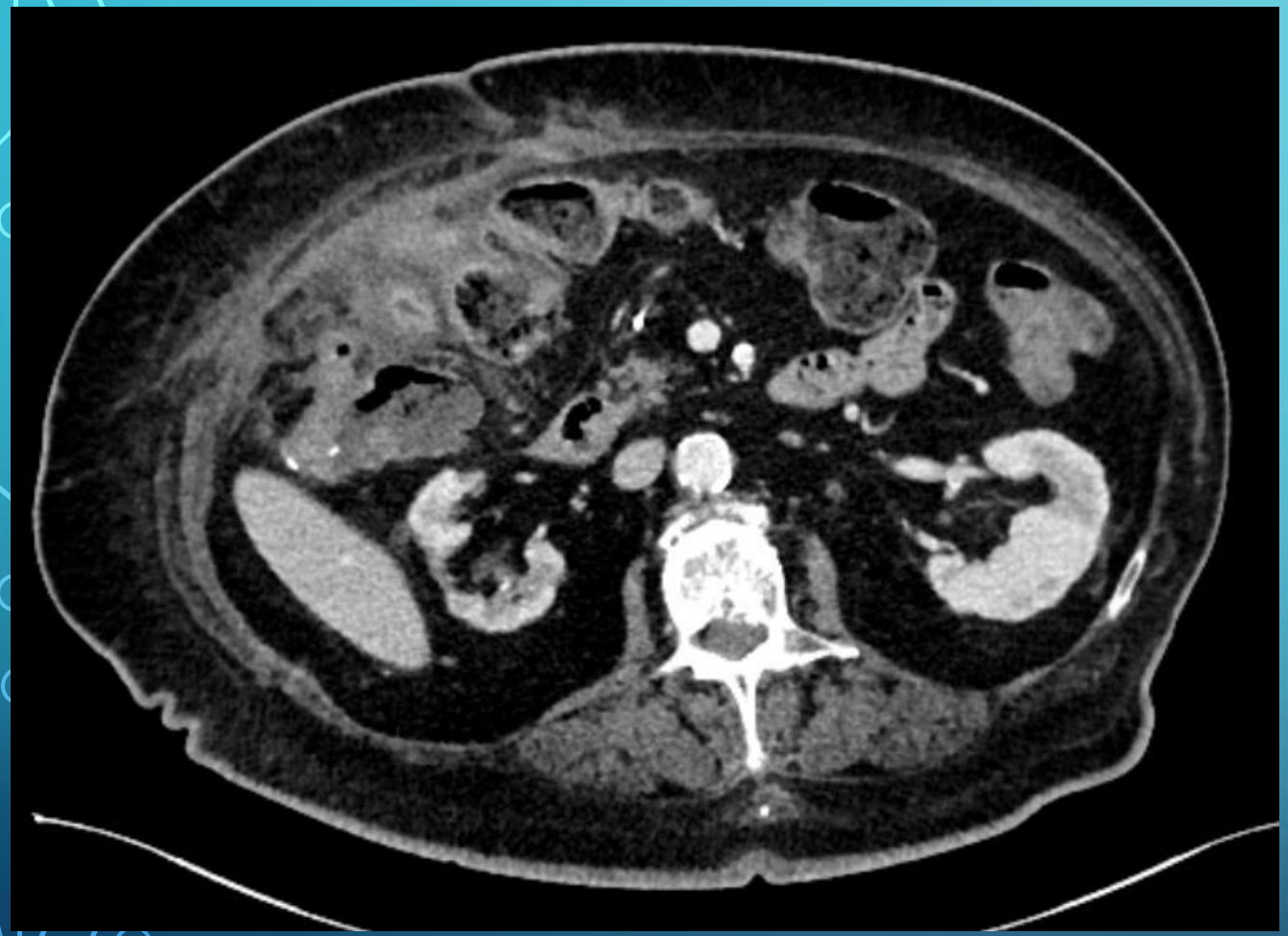
- Blood glucose 9.2 mmol/L

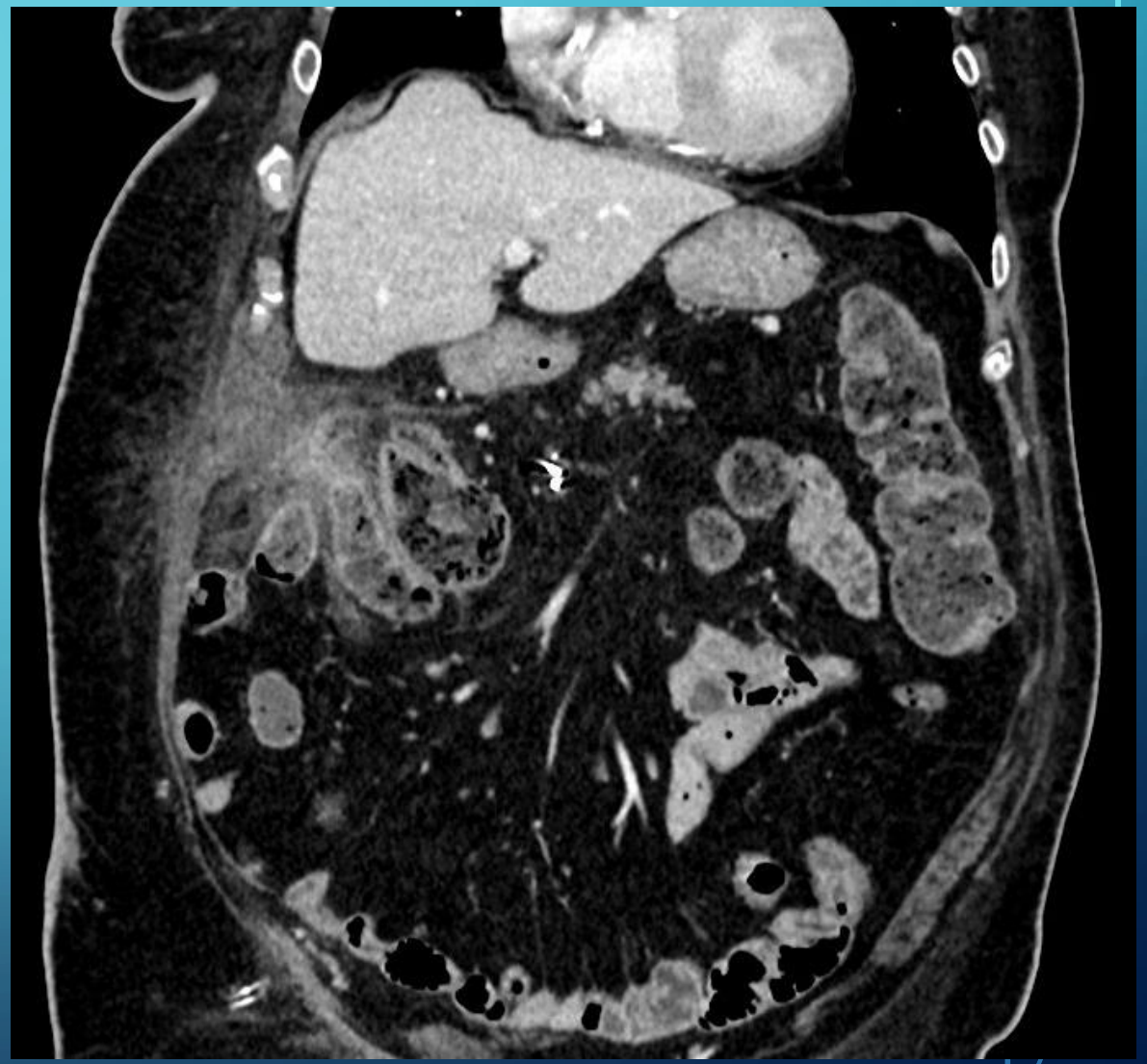
CT SCAN

- Right abdominal wall signs of phlegmone with few bowel loops attached to this part, no signs of collection but few air bubbles seen in abdominal wall muscles.









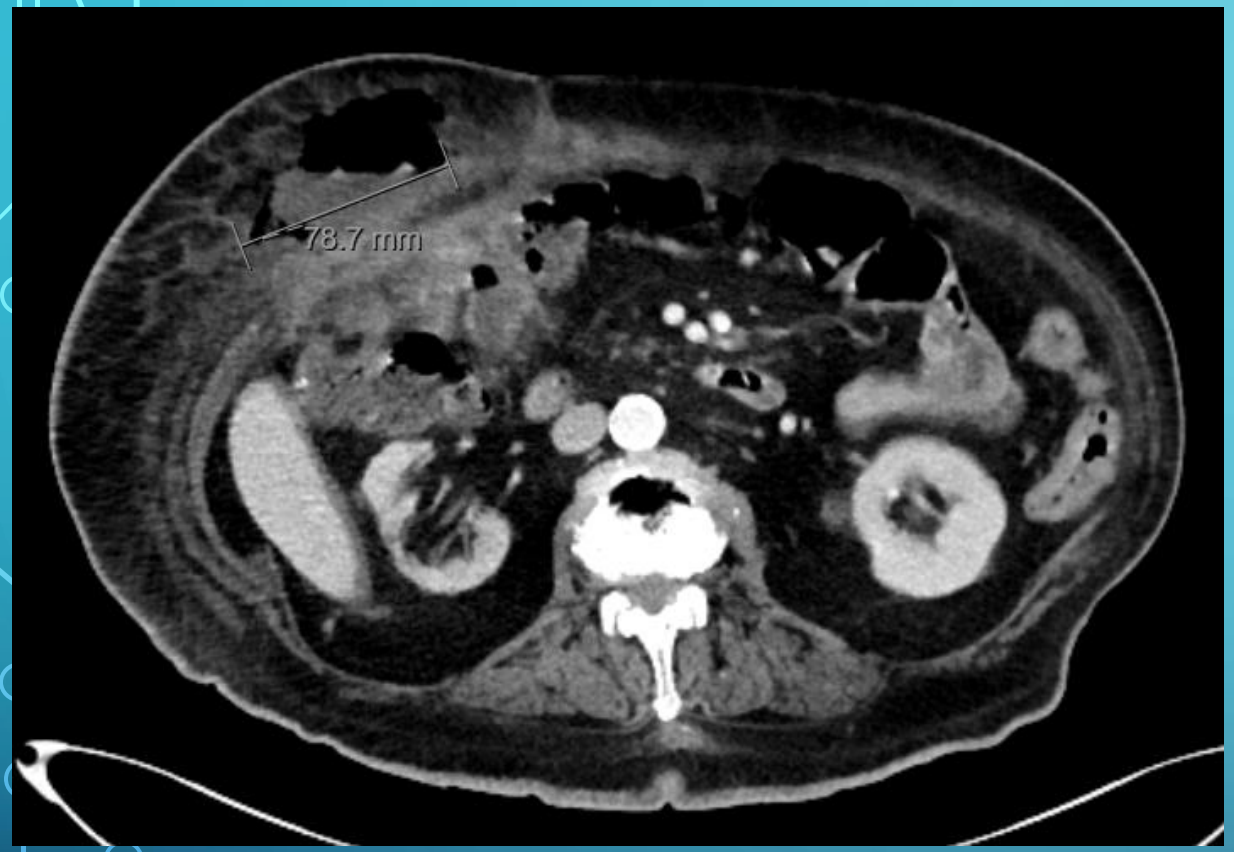
TREATMENT

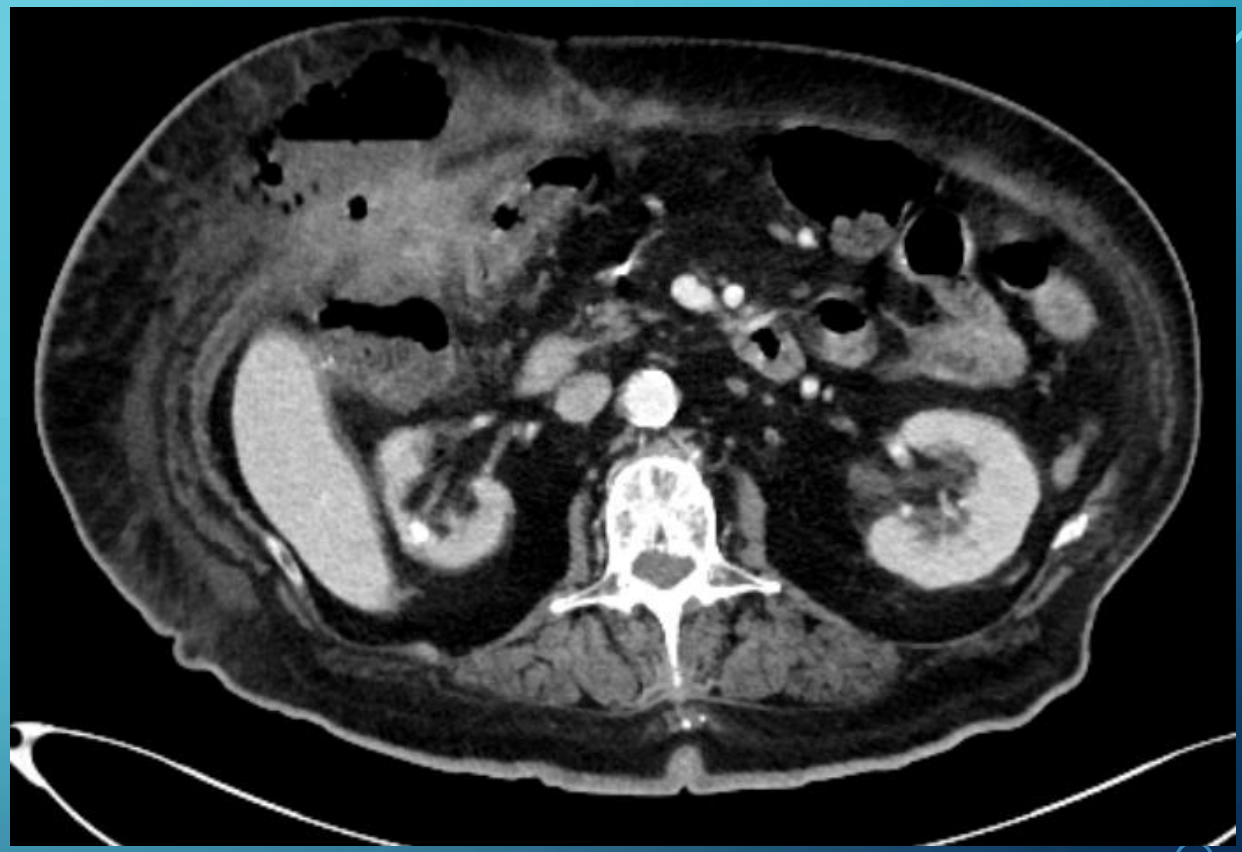
- IV Antibiotic therapy was initiated (Meropenem 3x1g)
- Interventional radiologist consulted- No option for percutaneous drainage as no clear collection visible
- Over next 5 days regression of pain, afebrile, normalization of L/CRP
- Discharged in good general condition

- Uneventful recovery over the next 2 months
- Oncologist recommended just observation
- Difficulties with glucose levels control

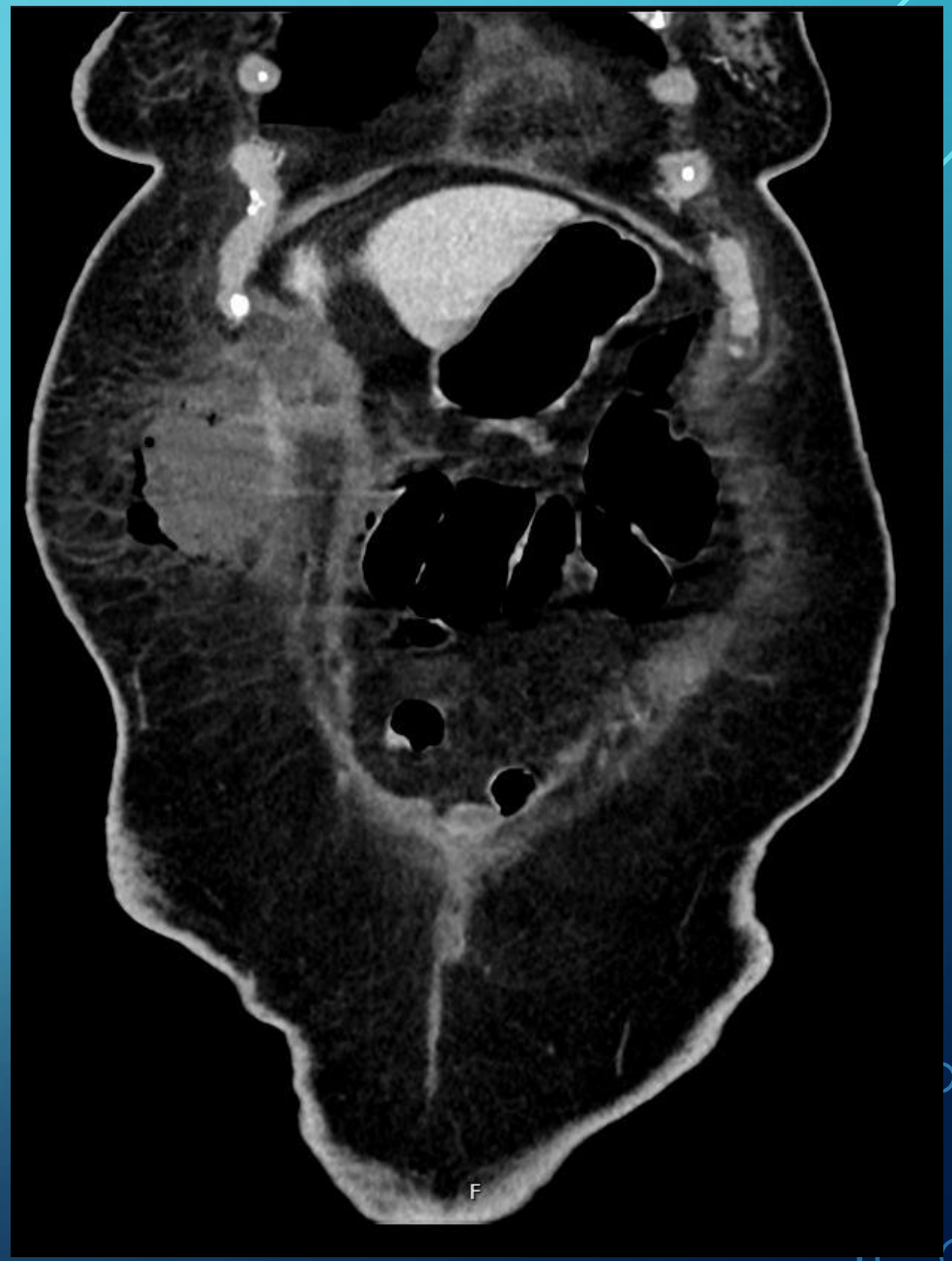
- 7 months postoperatively, another visit to ER
- Febrile, swelling of right abdominal wall
- L 17.5
- CRP 313

- CT scan- abscess sized 7.8cm mostly in subcutaneous tissues, but extending to abdominal wall muscles, possible fistula with ileal loop.


78.7 mm

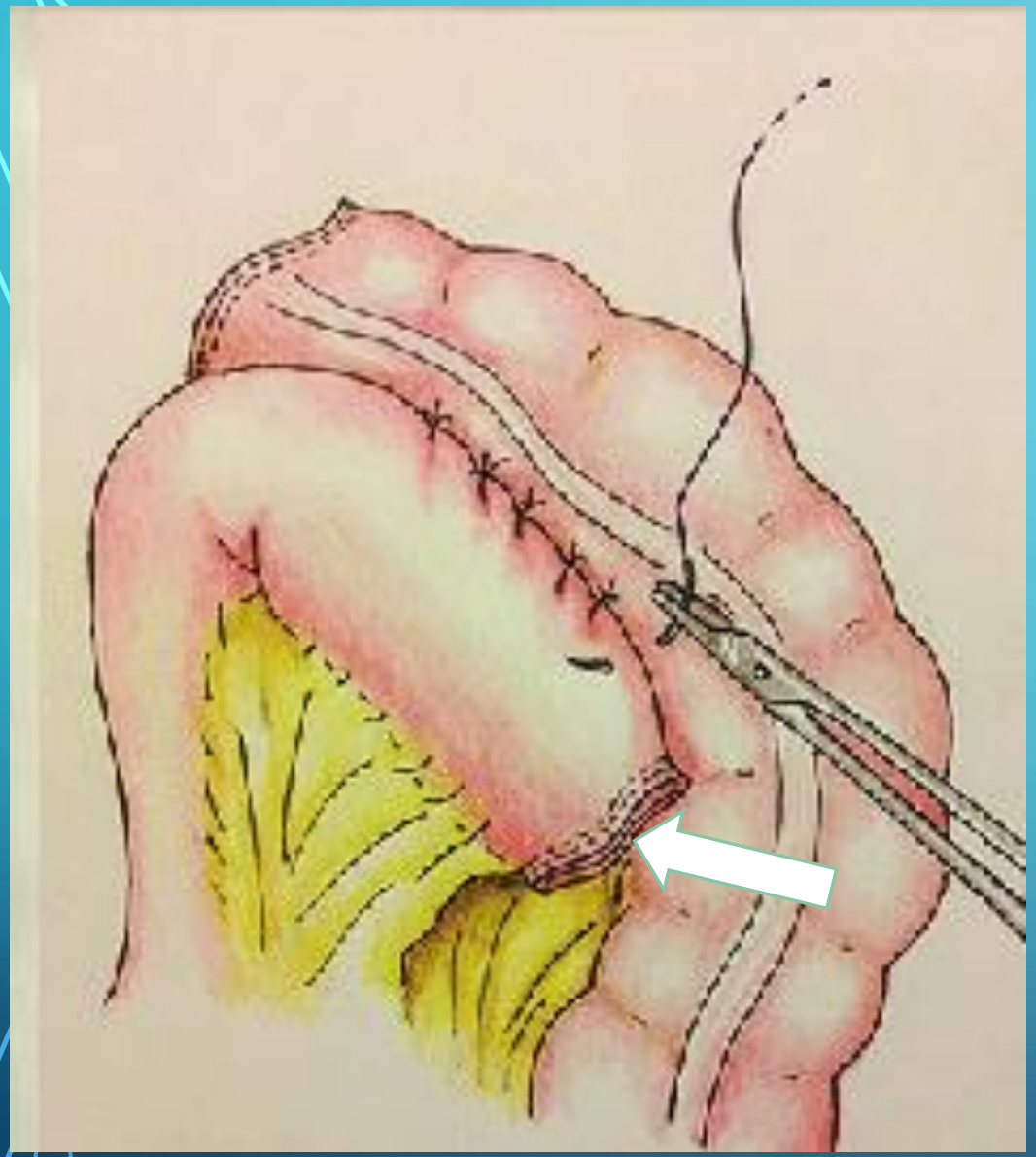


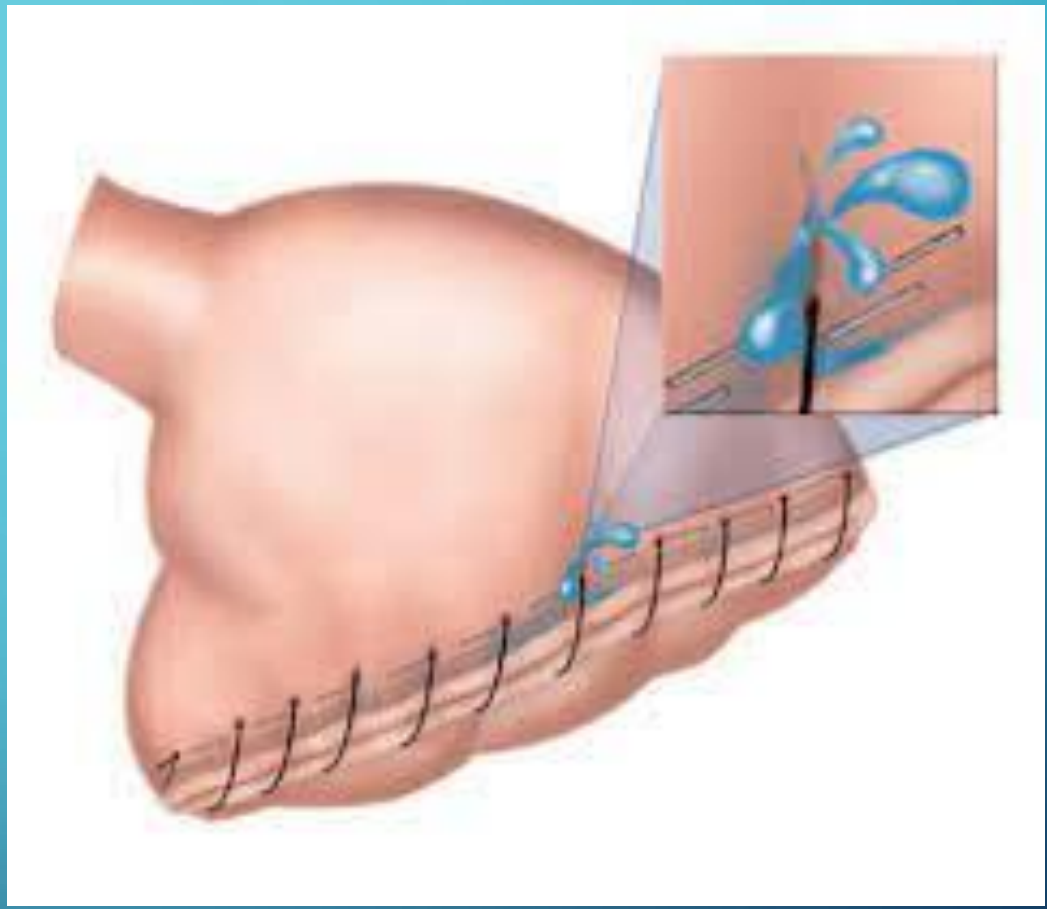
- Decided to perform abscess incision and drainage
- Intraoperatively pus was drained
- Abdominal wall musculature was exposed and involved in abscess cavity
- no sign of fecal content was present
- Wound was left open



ON 2ND POD ENTERAL LEAKAGE (FISTULA) ON WOUND WAS NOTED

- Surgery was indicated
- Adhesiolysis was performed, no sign of peritonitis or free fluid/abscess was seen
- At the right hemiabdomen the anastomosis and surrounding bowel were firmly attached to inner side of abdominal wall
- After freeing it, we noticed that blind side of ileum was forming fistula with abdominal wall at the area where previous abscess was found





- Although, re-anastomosis was considered, we did anastomotic resection and end ileostomy
- Postoperative course was fine
- Wound was treated with VAC
- Discharged on POD 13
- New ileocolic anastomosis was done 6 months later,2 years after no signs of complications

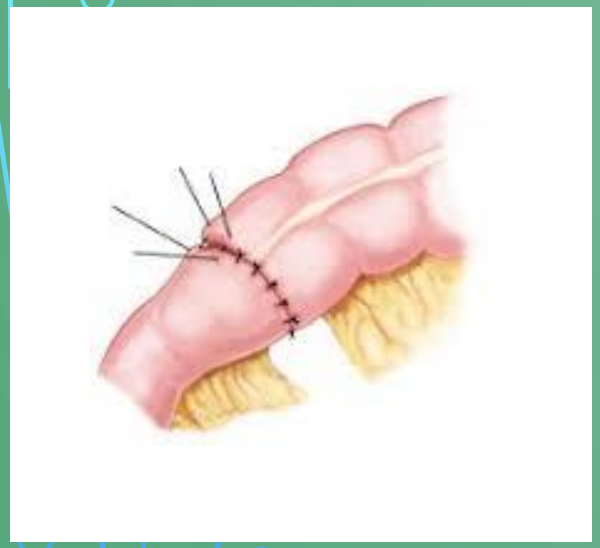
POSSIBLE CAUSES

- 1. Contained early anastomotic leak
- 2. Delayed, but contained leak at blind ileum suture line
- 3. Traumatic perforation of blind ileum suture line
- 4. Late ischemia of blind ileum suture line
- 5. Abdominal wall abscess erosion into perianastomotic area
- 6. Role of diabetes and cardiopathy in poor tissue healing
- 7. Food particle caused perforation on blind ileal part

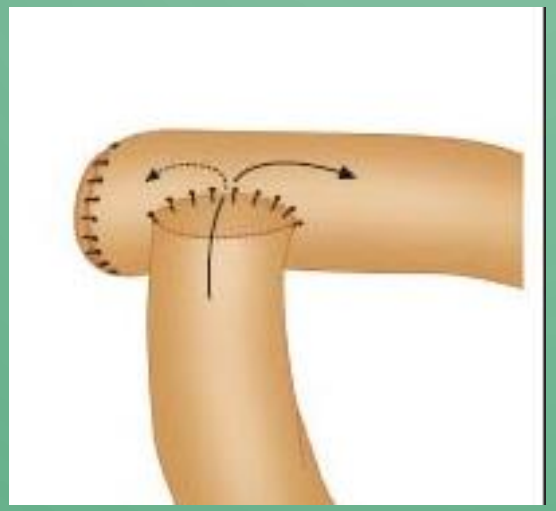
TYPE OF ANASTOMOSIS

ORIENTATION

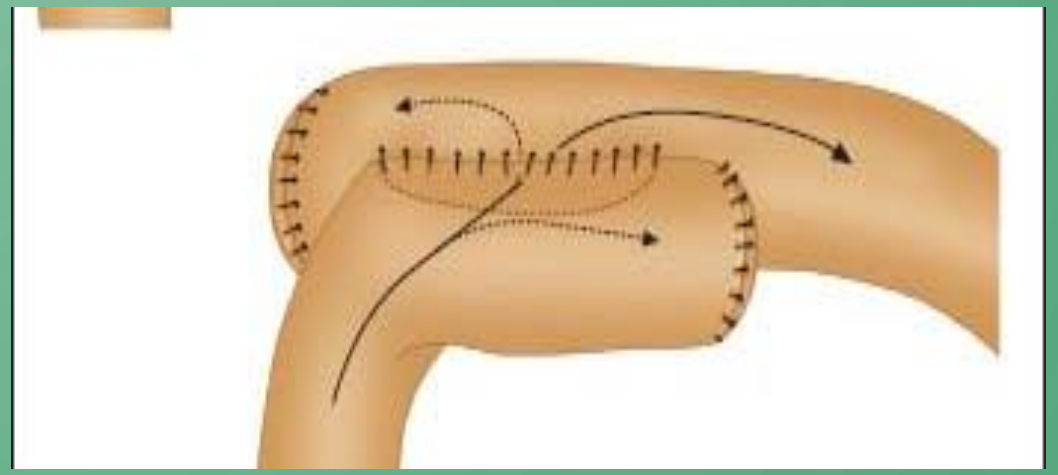
END TO END



END TO SIDE

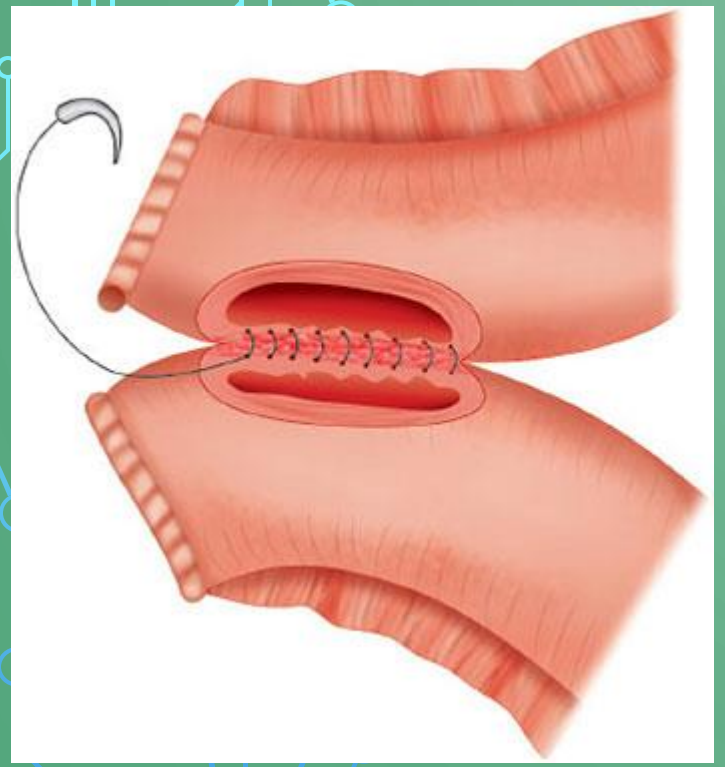


SIDE TO SIDE

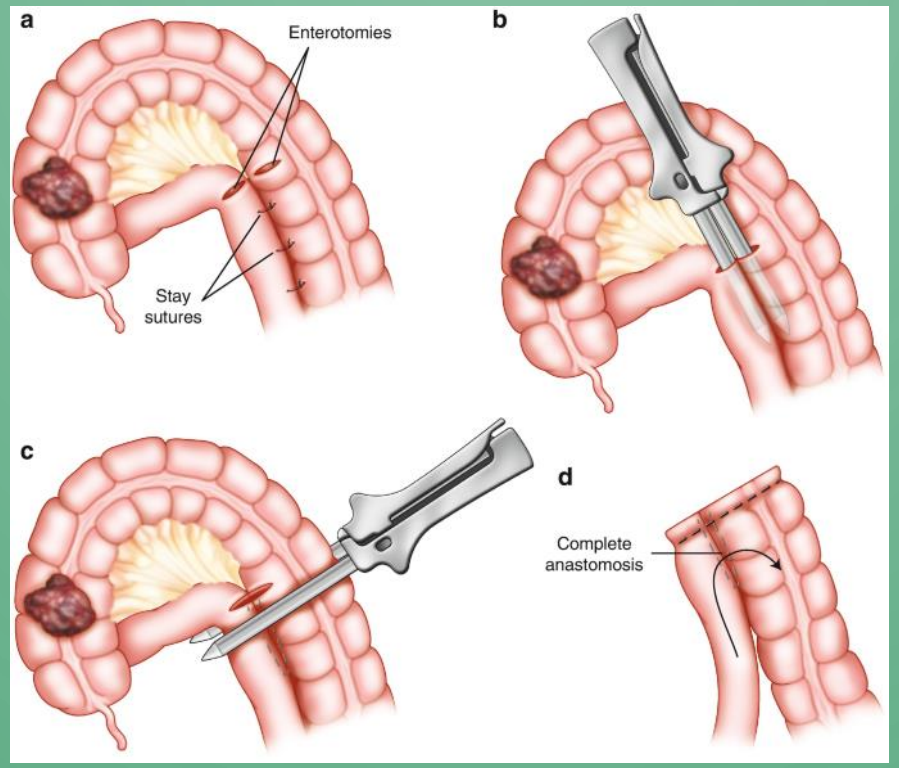


TECHNIQUE OF ANASTOMOSIS

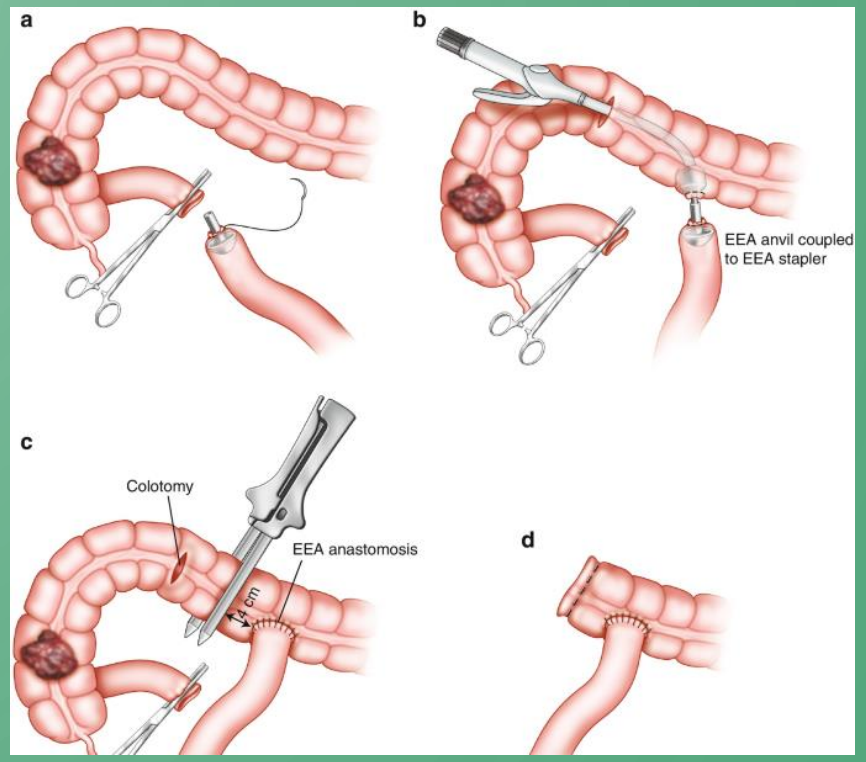
HAND SEWN



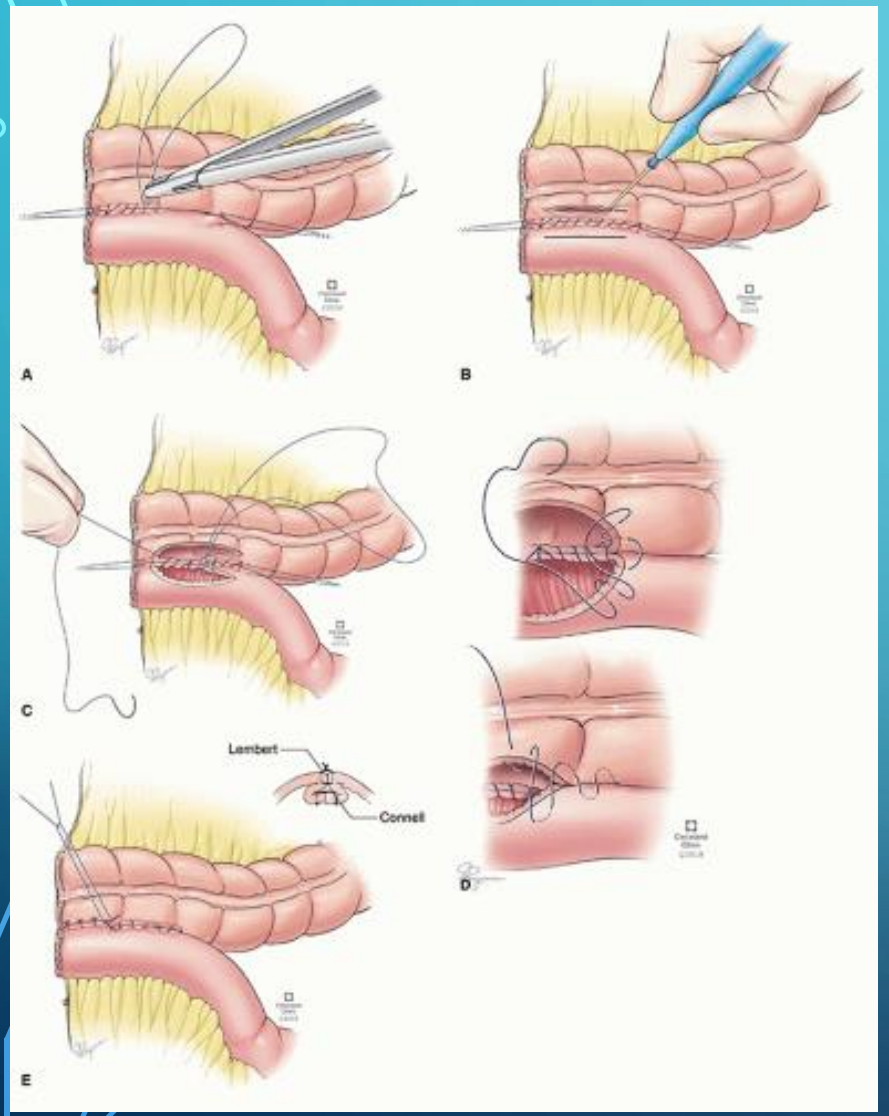
GIA STAPLER

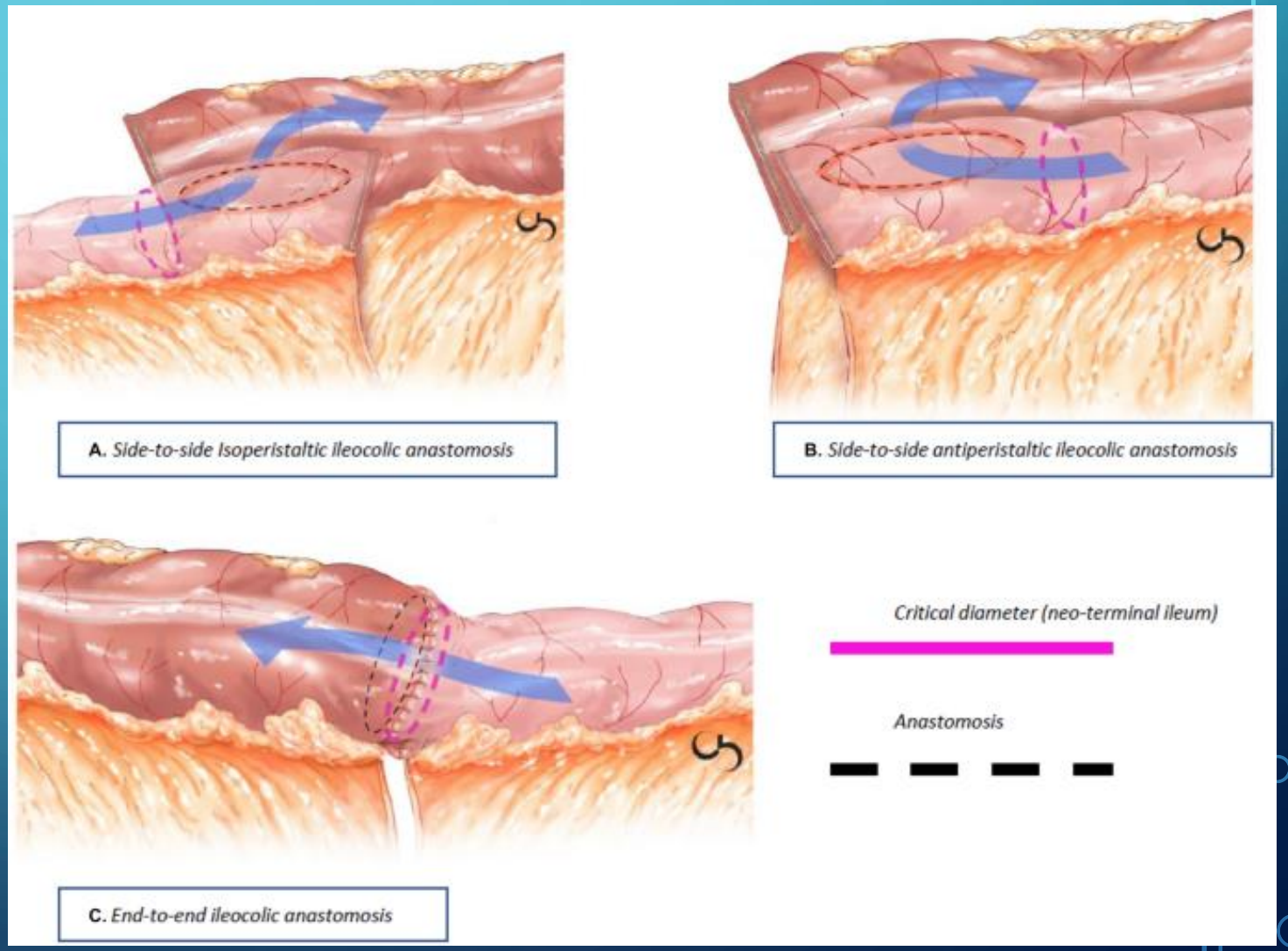


CIRCULAR STAPLER

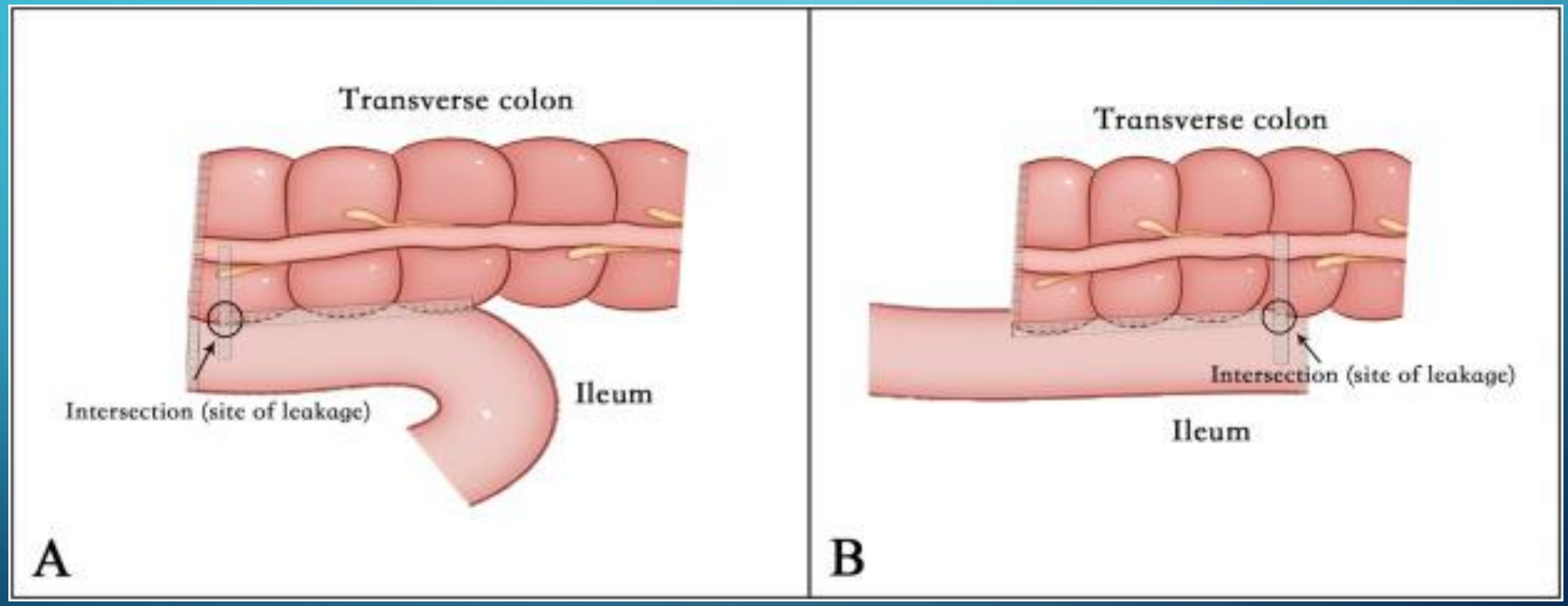


HAND SEWN (MONOFILAMENT 3-0 ABSORBABLE)





GIA STAPLER


Transverse colon
Intersection (site of leakage)
Ileum
A
Transverse colon
Intersection (site of leakage)
Ileum
B

THERE ARE VARIOUS TECHNIQUES OF ILEOCOLIC ANASTOMOSES

- Literature can not reveal the optimal one
- Mostly based on surgeon preference
- More important that the exact type of the anastomosis **is tension free** principle using **adequately vascularized bowel ends.**
- **Surgeons should have on mind early and delayed anastomotic complications**

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