TREATMENT OF HEPATICOJEJUNOSTOMY STENOSIS

A New Technique for Recurrent Stenosis of Hepaticojejunostomy

الدكتور

- فائز صندوق
- أخصائي في أمراض الجهاز الهضمي
- زميل الكلية الملكية البريطانية *FRCP*

الدكتور

- رأفت حروب
- أخصائي في الجراحة العامة والتنظيرية
- فلوشيب في جراحة و زراعة الكبد والبنكرياس

Hepaticojejunostomy

{RYHJ}
(Roux-en-Y)

Was first introduced in 1949 is a surgical technique used to preserve the anatomical tract after surgical resection of the hepatobiliary system

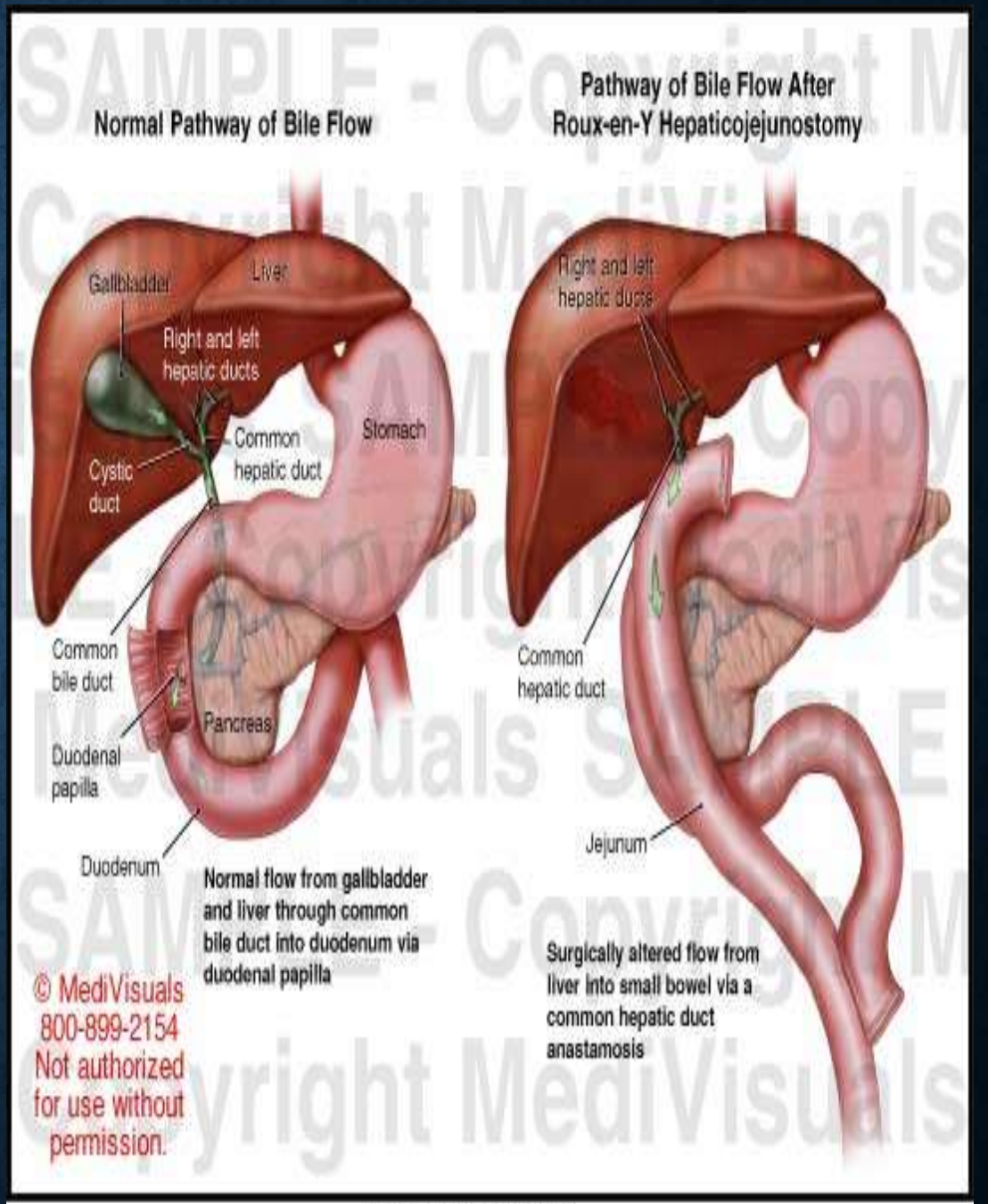
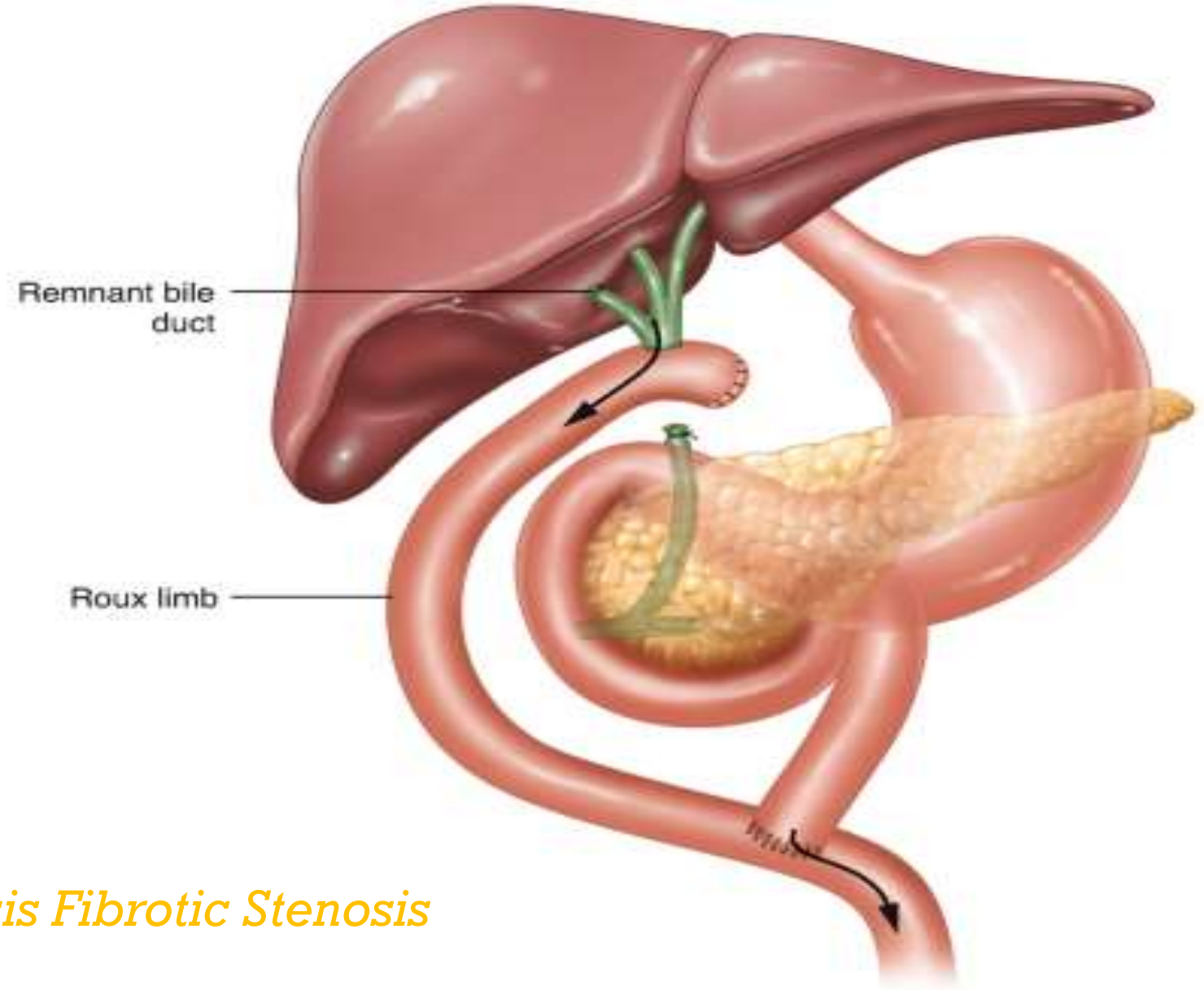


Figure 10.5

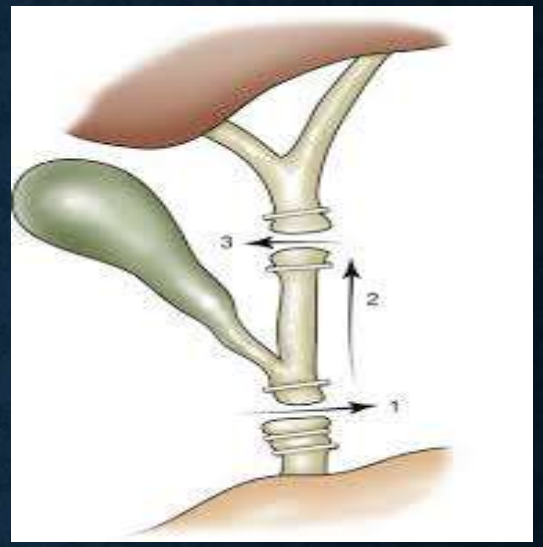


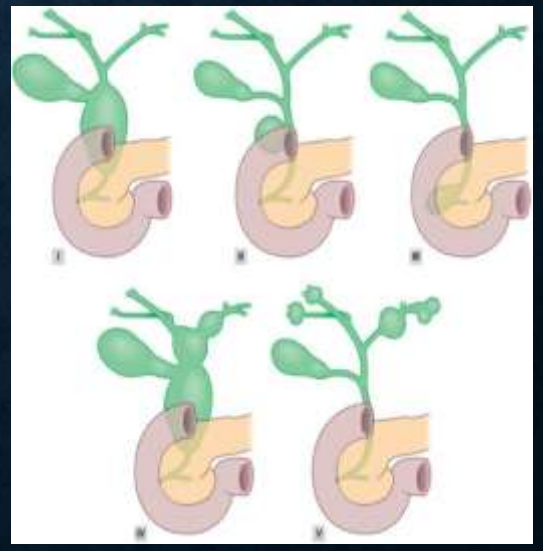
Ref. 1, 2, 3

Anastomosis Fibrotic Stenosis

Cause of RYHJ:

- Bile duct injury
- benign biliary stricture
- Choledochal cysts
- biliary tract tumors

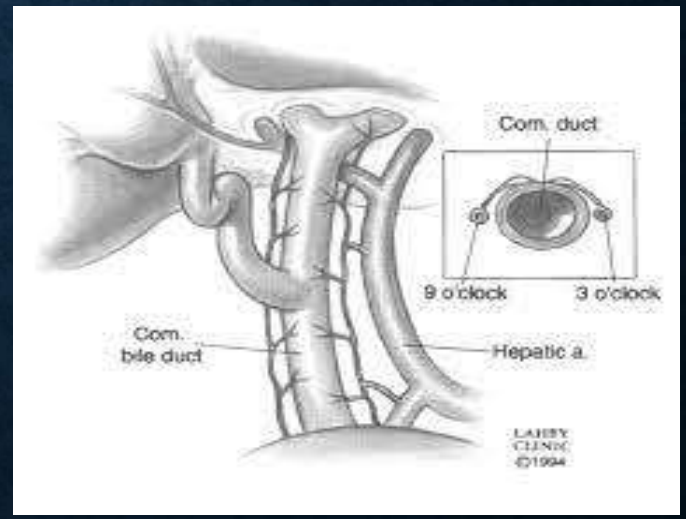




NOTES during HJA:

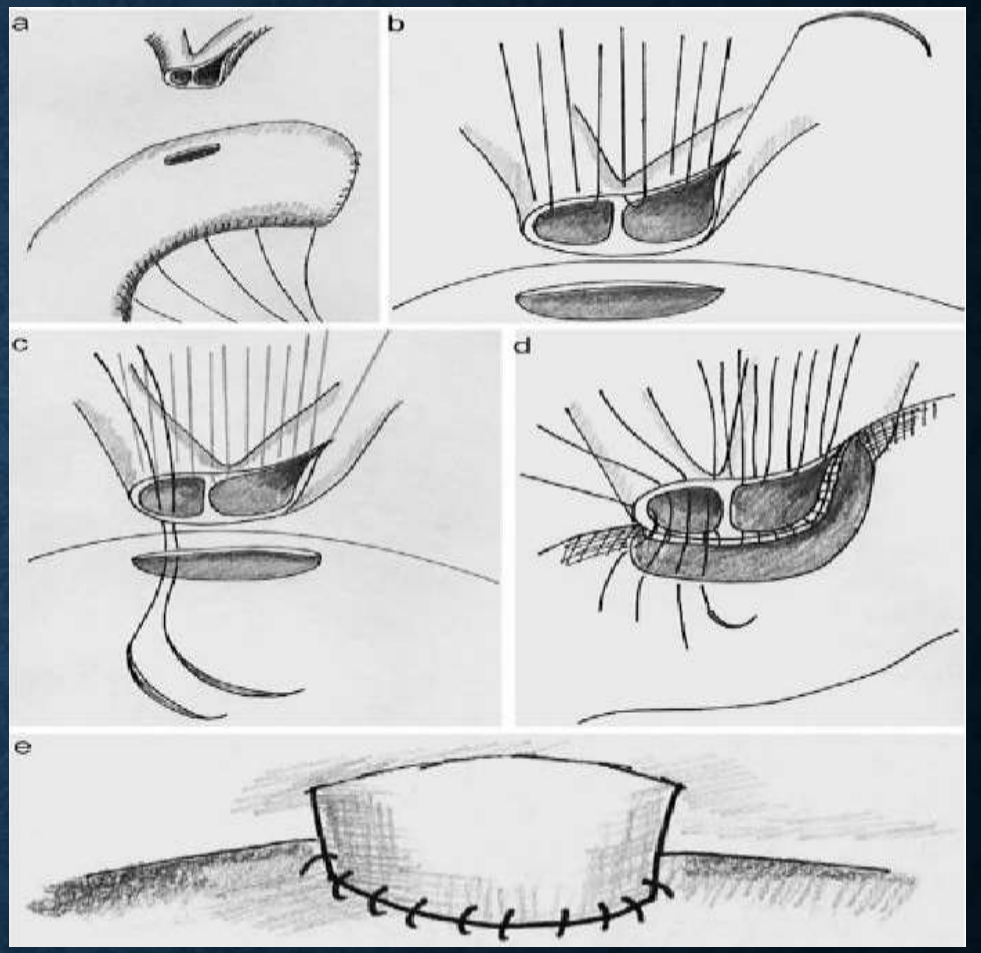
1 Scissors are recommended to ensure good blood supply at the broken end of the bile duct when cutting the bile duct

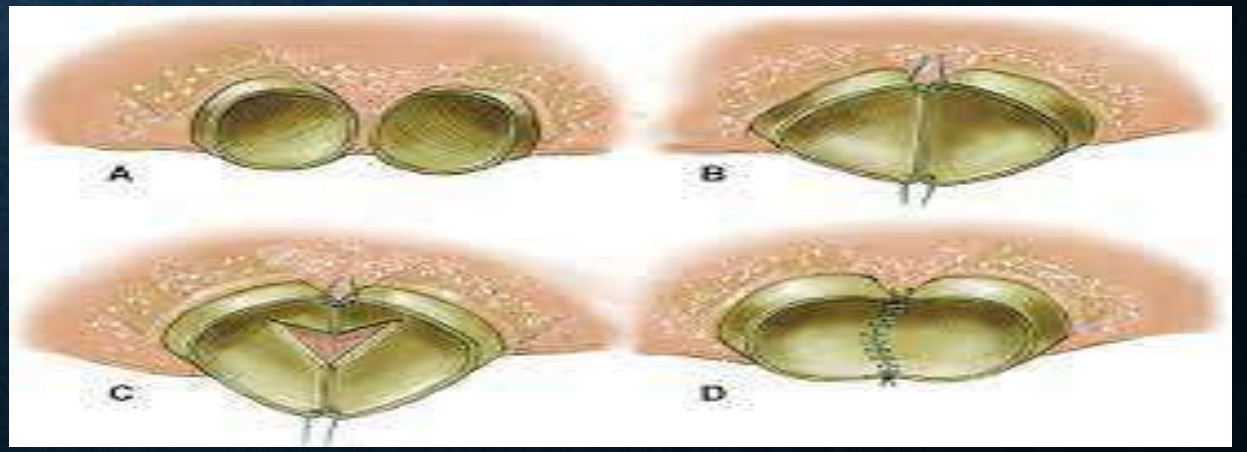
2 The bile duct stump should not be freed too long during bile duct shaping



3 avoid trimming the bile duct at 3 o'clock And 9o'clock which usually exist parallel blood vessels

4 If the position of the bile duct disconnection is above the confluence of the left and right hepatic ducts or there are multiple bile duct sections, all the openings should be shaped together into one large stump to facilitate anastomosis.



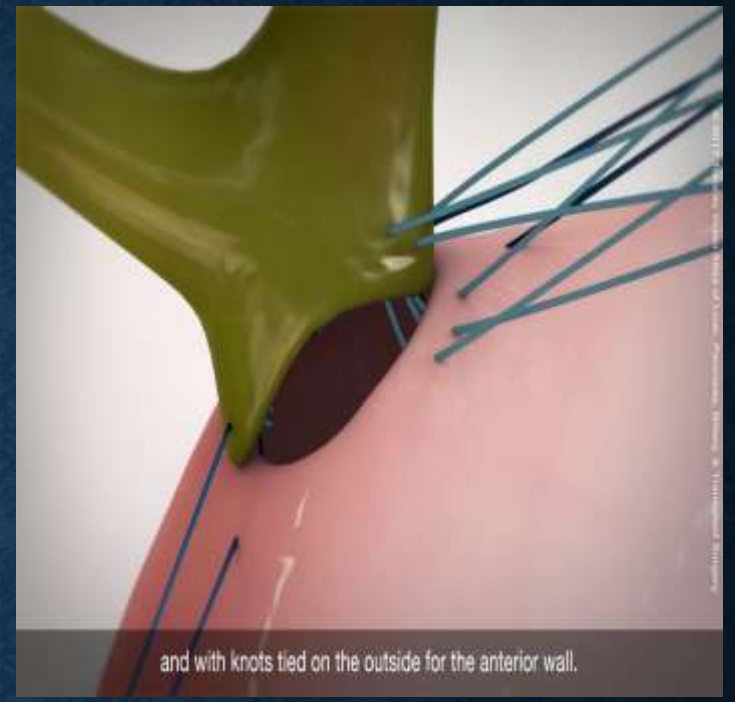


5 The opening of the jejunum should be implemented on the opposite side of mesangium, and the diameter of opening is generally 2/3 of the bile duct diameter.

6 Anastomosis method selection

The methods of hepaticojejunostomy are generally divided into three types:

- interrupted suture
- continuous suture
- continuous suture in the posterior wall with interrupted suture in the anterior wall.



continuous suture is preferred if the diameter of the bile duct is larger than 5mm. The other two suturing methods are preferred when the bile duct diameter is less than 5mm.

7 Selection of anastomotic threads:

The ideal thread should be :

- smooth
- ability of maintaining tension for long time
- absorbable
- being mildly inflammatory.

PDS is the most suitable especially small duct and thin wall

Vicryl also can use especially thick wall and dilated duct

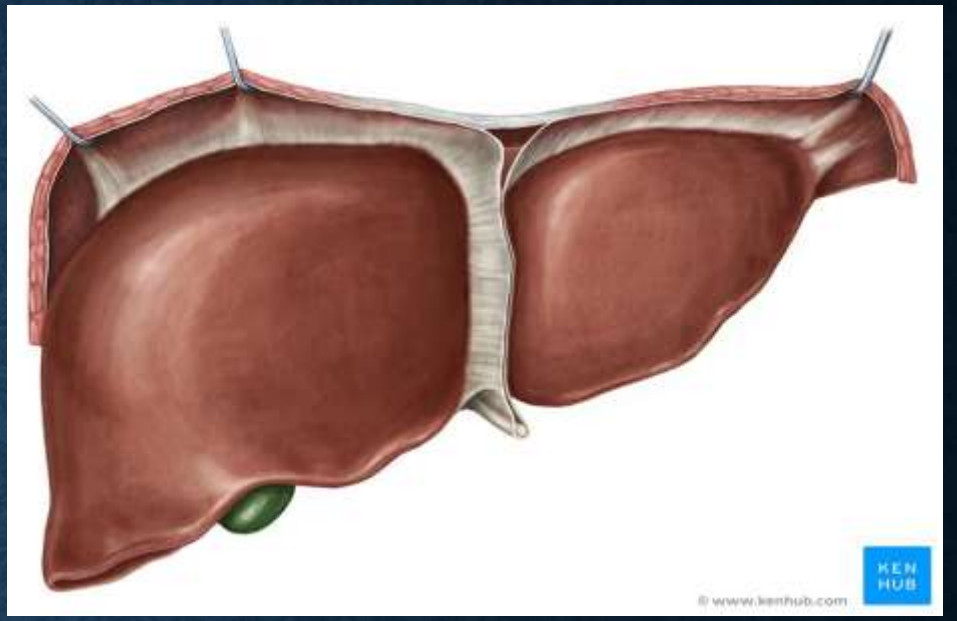
Note

:

The usage of non absorbable suture material such as polypropylene and silk threads .
Has been reported to be associated with anastomotic biliary stones and stricture

8 evaluation and management of anastomotic tension

(Free of tension)



HJA STENOSIS is a long-term complication that is estimated to occur in up to 15% in non transplant patients and up to 30% in transplant patients developing at a median of 2 to 4 years post-procedure and can lead to :

- recurrent cholangitis
- jaundice
- stone formation

Ref . 1, 2, 3

Anastomosis Fibrotic Stenosis

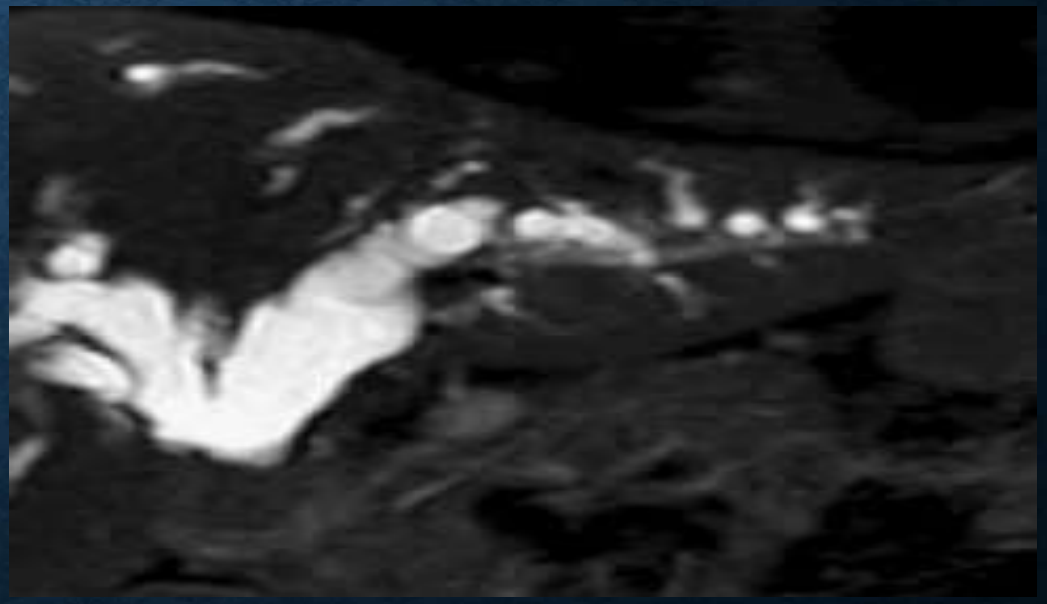
Diagnosis of HJAS :

LABORATORY

Increase liver function tests (LFTS)(bilirubin, alk.p, &gt)
at least 1.5 x above upper limit of normal in at least 2 markers)

CLINICALY:

- fever
- Abdominal pain
- Jaundice
- Itching
- Dark urin
- Nausea
- Vomiting



RADIALLY

imaging US/ CT/ MRI / MRCP **consistent with a HJAS**

Treatment of HJAS:

1- SURGICAL

2- NON SURGICAL

* PTBD

* ERCP

* ???????

(A NEW TECHNIQUE FOR RECURRENT STENOSIS OF HEPATICOJEJUNOSTOMY)

SURGICAL TREATMENT

Revision of hepaticojejunostomy, performed to manage HJAS, is a technically challenging procedure that usually necessitates a high anastomosis in a hilar and intrahepatic board.

- This carries a morbidity of about 25%
- and a mortality of about 2%.
- In addition, a success rate of surgical repair decreases with each attempt for surgical intervention

Non Surgical treatment:

1-Percutaneous transhepatic cholangiogram-guided biliary drainage (PTBD) :

the technique requires an external drain.

It is also associated with complications rates ranging from 11% to 35%

Including:

1-hepatic artery injury

2-hemorrhage

3-post-procedure sepsis

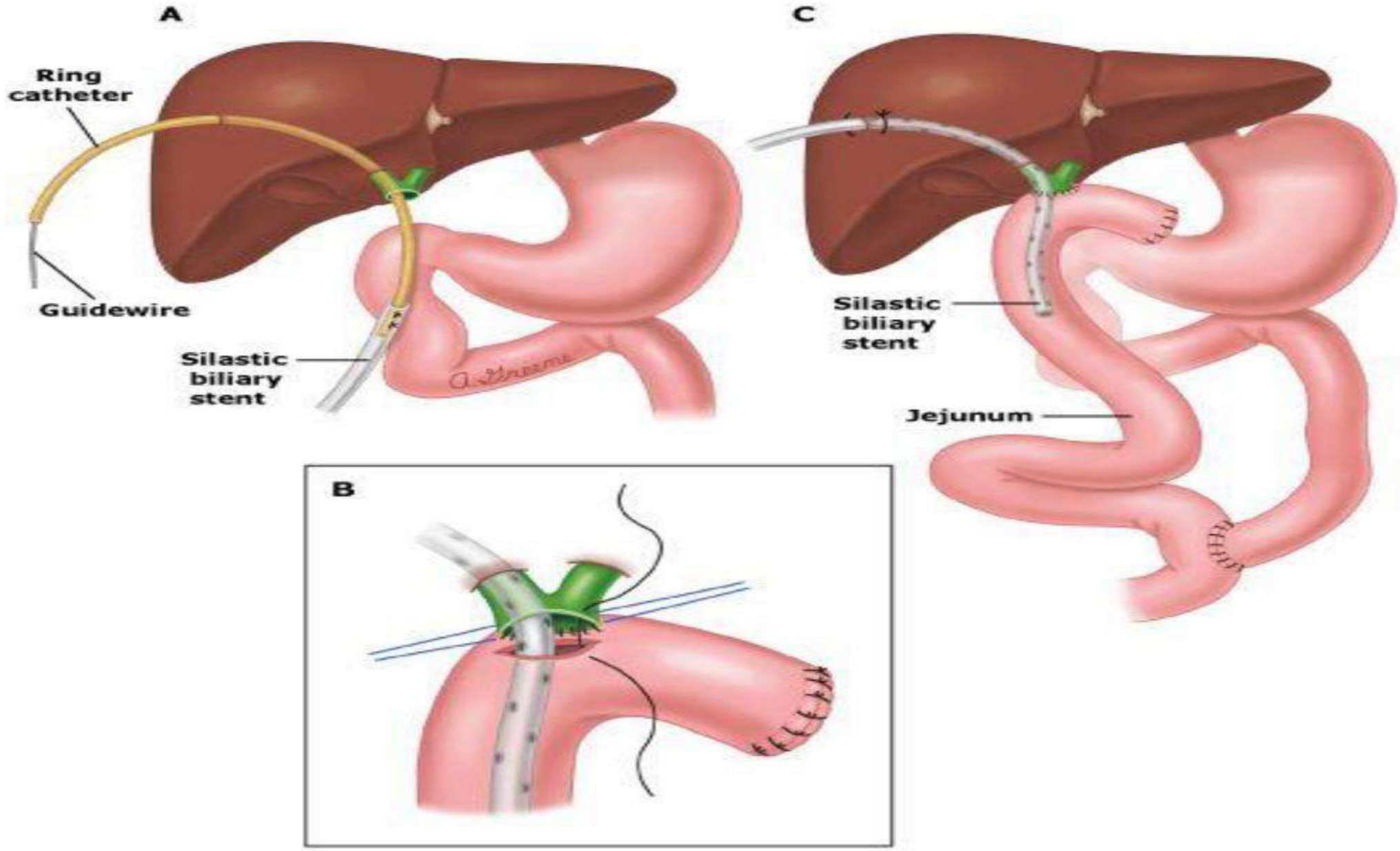
4-liver abscess

5-and pneumothorax

6-high failure in non-dilated biliary system

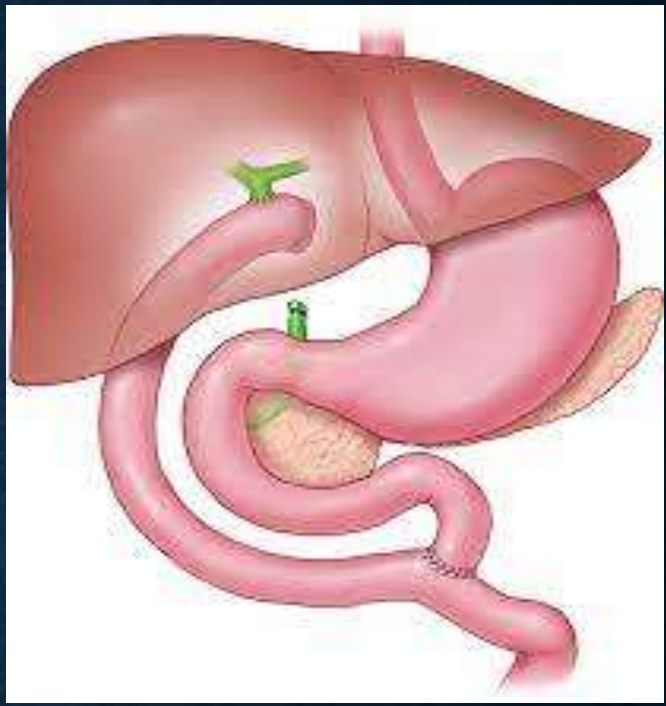
7-higher complication rates in patients with portal hypertension and/or coagulopathy,

Roux-en-Y hepaticojejunostomy

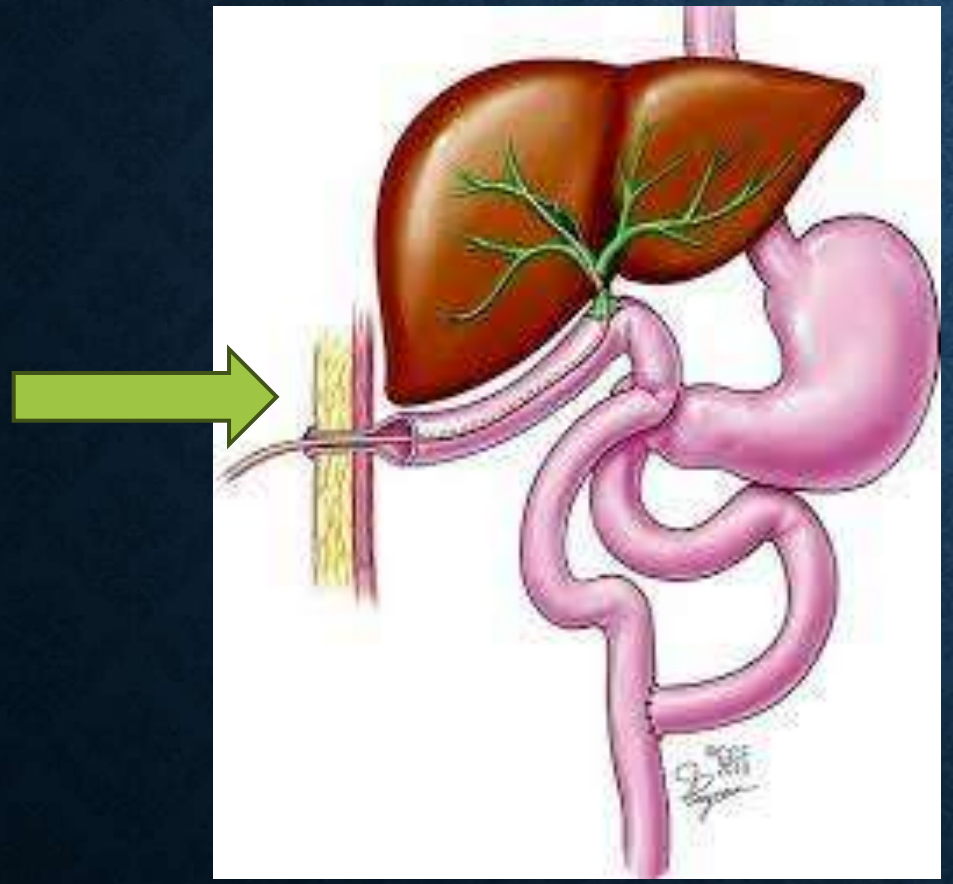


2-Traditional endoscopic retrograde cholangiopancreatography (ERCP) with low cannulation success rates of 33%.

endoscopic access to the HJ anastomotic site is difficult due to the lengthy pathway in Roux-en-Y reconstruction.



Or through the limp of jejunal which had been **implanted under the skin** with difficult to find it and the complications of wound infection and biliary fistula



References: 6, 7
Percutaneous Axis

3-dilatation for hepaticojejunostomy anastomosis through

gastric access loop

A New Technique for Recurrent Stenosis of Hepaticojejunostomy

1998

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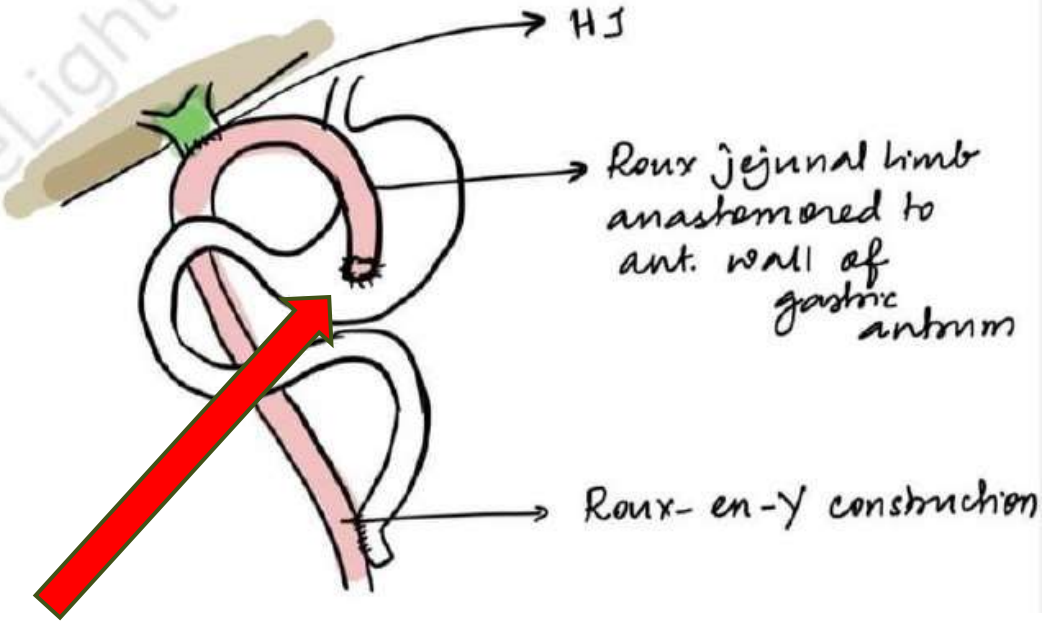
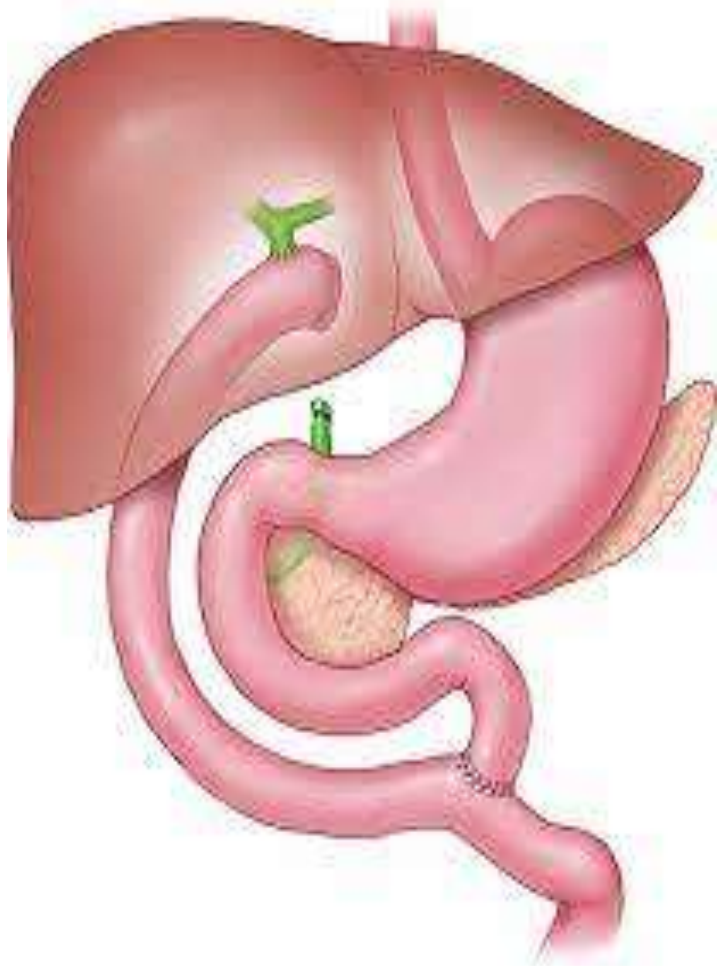
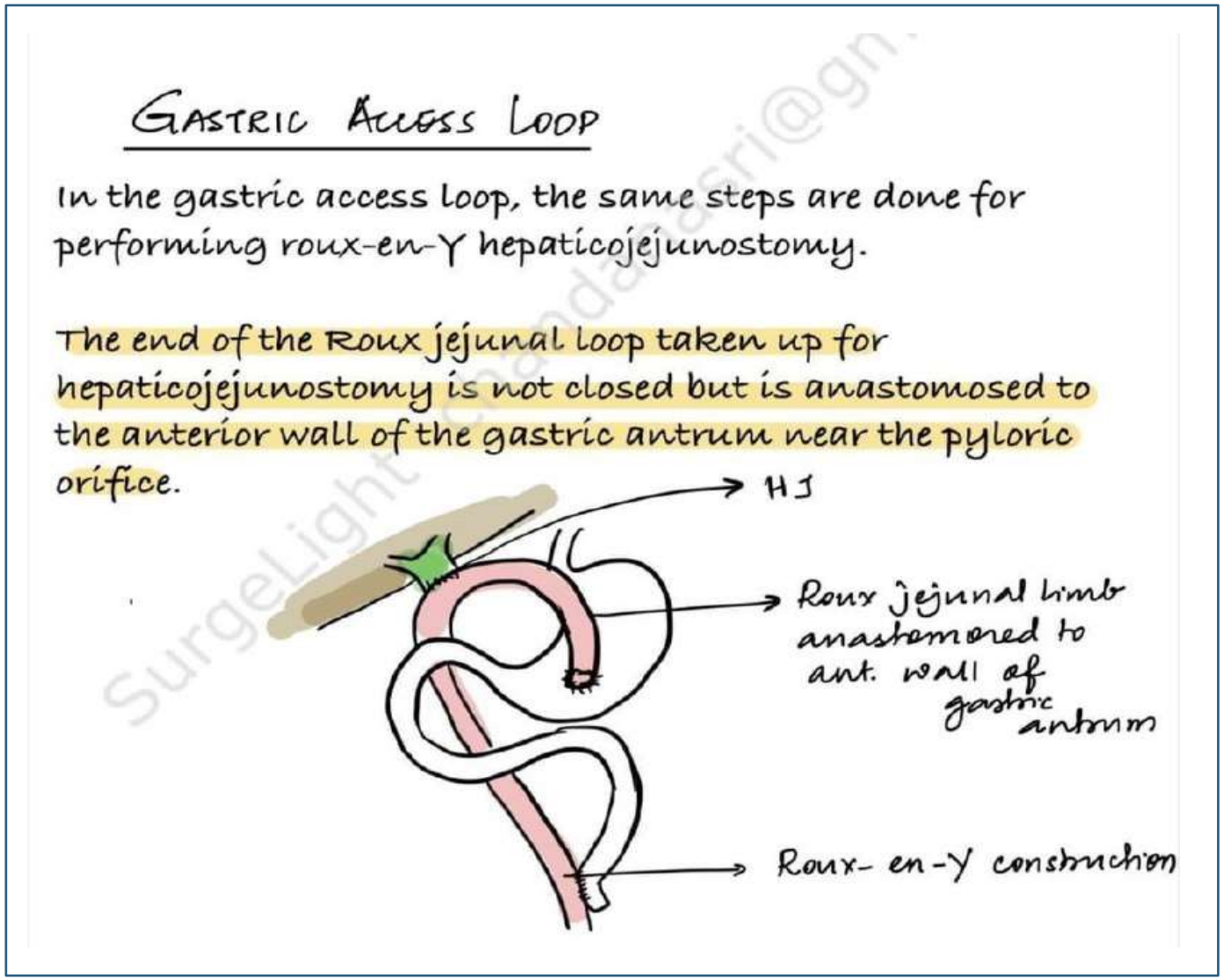
Gastric Access Loop

In the gastric access loop, the same steps are done for performing roux-en-Y hepaticojejunostomy.

The end of the Roux jejunal loop taken up for hepaticojejunostomy is not closed but is anastomosed to the anterior wall of the gastric antrum near the pyloric orifice.





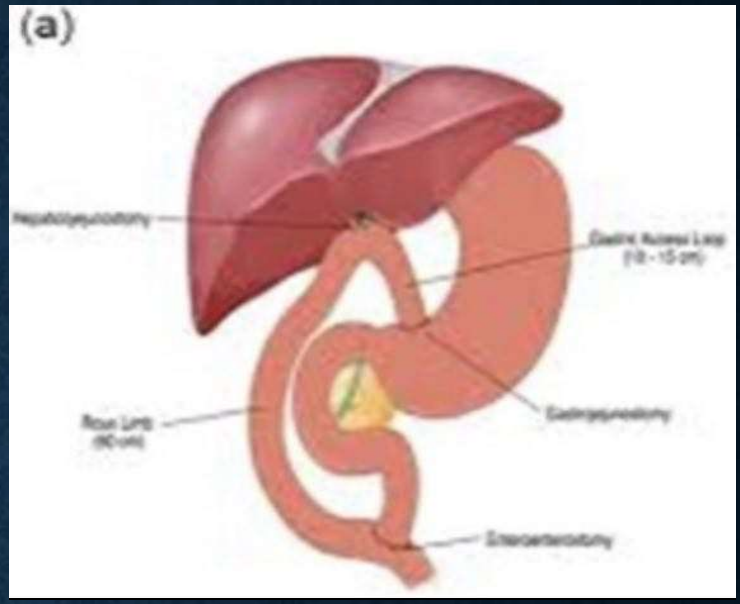


• Surgical technique:

- Then, the hepaticojejunostomy (HJ) anastomosis **was done 10–15 cm** away from the free end of the Roux jejunum loop to allow anastomosis without (tension) to the stomach.

- The end of the Roux jejunal loop taken up for hepaticojejunostomy was not closed but was **anastomosed to the anterior wall of the gastric antrum** about 5cm proximal to the pyloric orifice .

Four questions you would like to ask me :



(1) the fear of biliary gastritis from the presence of bile in the stomach .

(2) the risk of cholangitis from food particles entering the access loop.

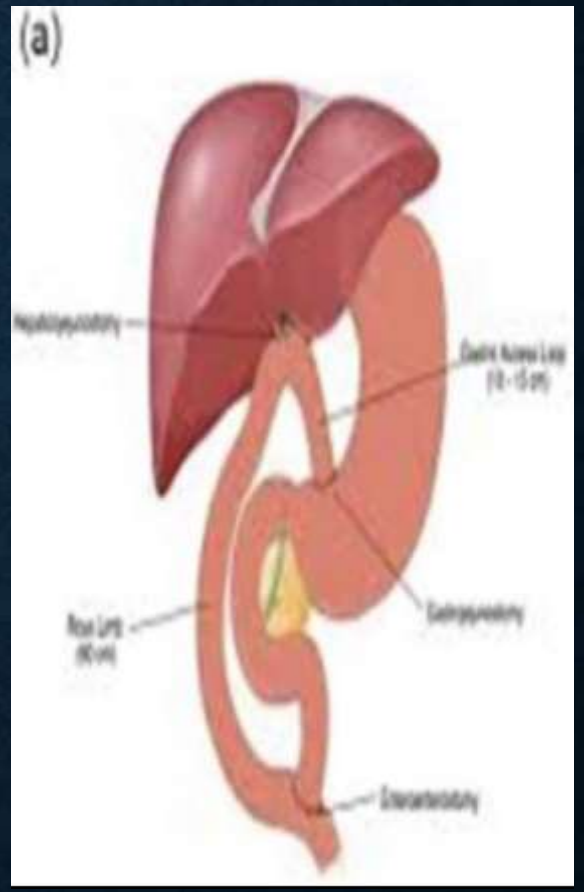
(3) Adding another anastomosis to the procedure with the risk of gastric fistula.

(4) the therapeutic benefit of endoscopic access to HJ anastomosis is questionable.

(1) the fear of biliary gastritis from the presence of bile in the stomach:

- We believe that the nature of pure bile content in the stomach of our patients is totally different from that of the duodenogastric reflux which contains a mixture of bile and pancreatic enzymes,

- (The presence of activated pancreatic enzymes) is responsible for the injurious effects of reflux biliary gastritis and esophagitis



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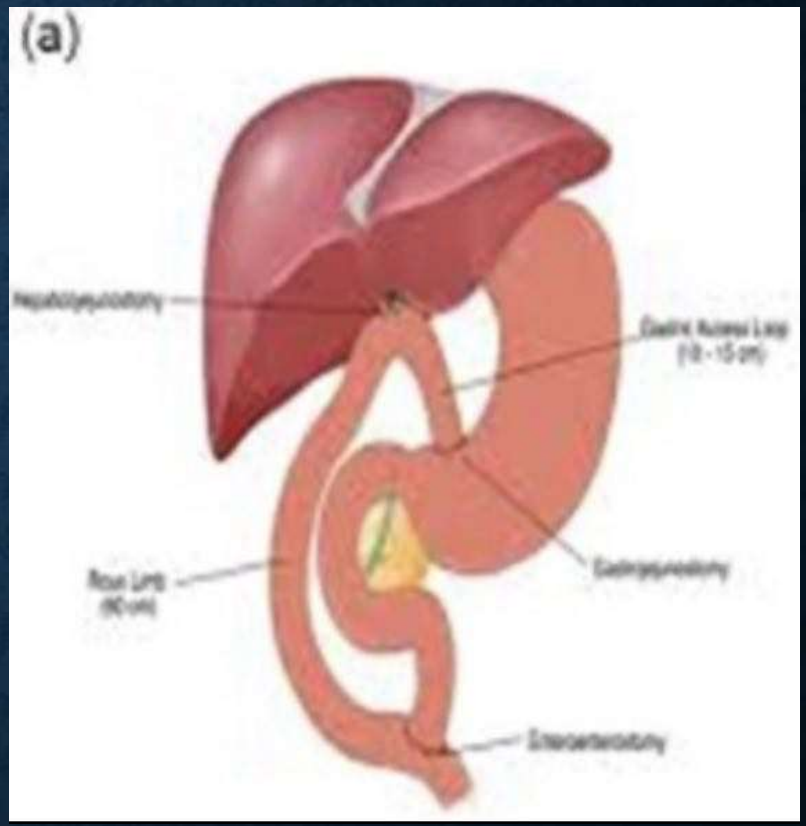
the bile flow to the stomach is upstream against the peristalsis of the jejunal loop.



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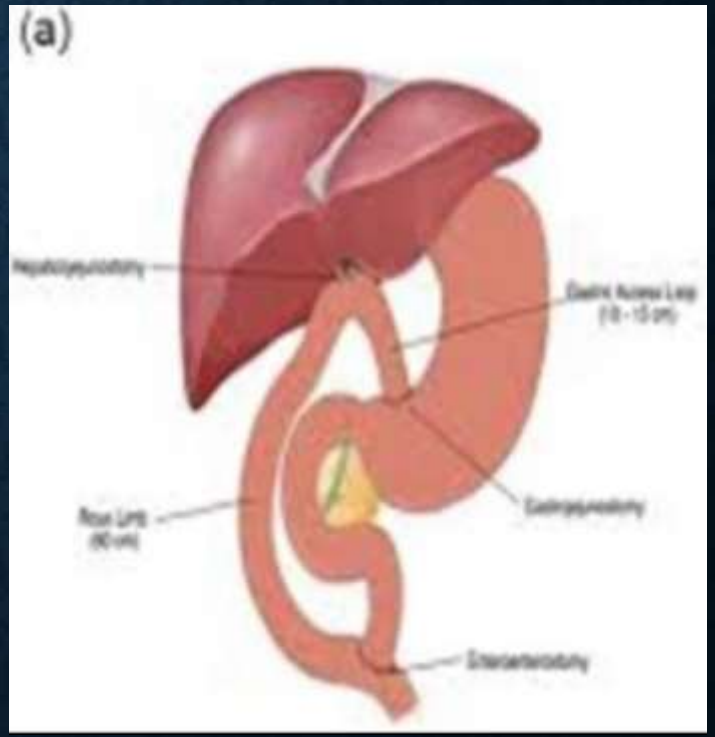
(2) the risk of cholangitis from food particles entering the access loop:

the strong gastric muscular layer which contracts during digestion **closing the opening of GJ.**



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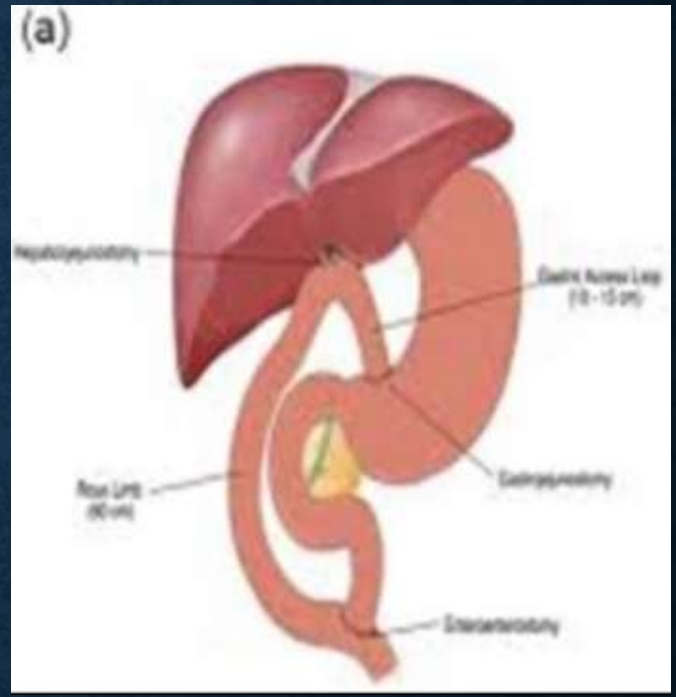
(3) Adding another anastomosis to the procedure with the risk of gastric fistula:

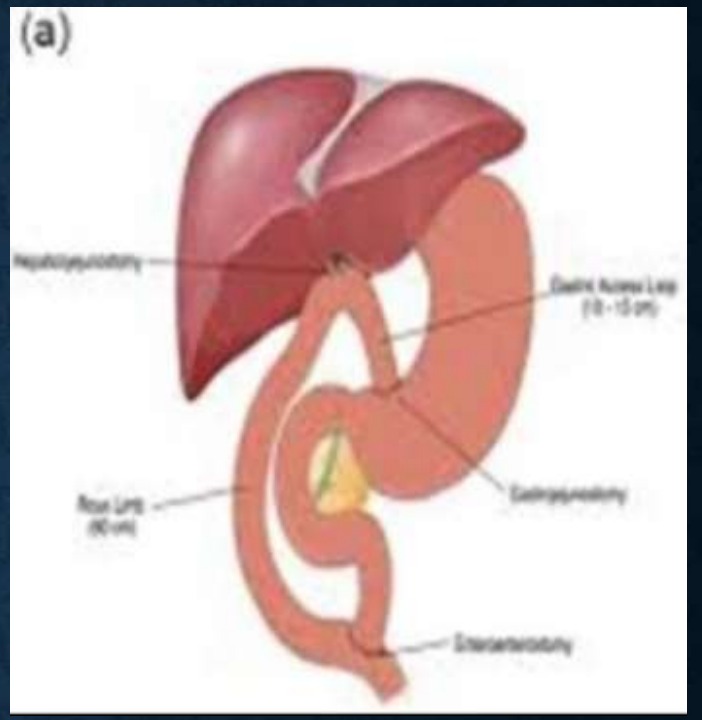
anastomosis like any anastomose



(4) the therapeutic benefit of endoscopic access to HJ anastomosis is questionable:

Further & Future Studies

Our experience since 2021:



45 cases with gastric access loop:

1. No leakage from gastric access loop anastomosis.
2. No stenosis until now.
3. No symptoms of cholangitis .
4. No symptoms of gastritis .
5. One trail to pull T.TUBE (success).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28/10/2024
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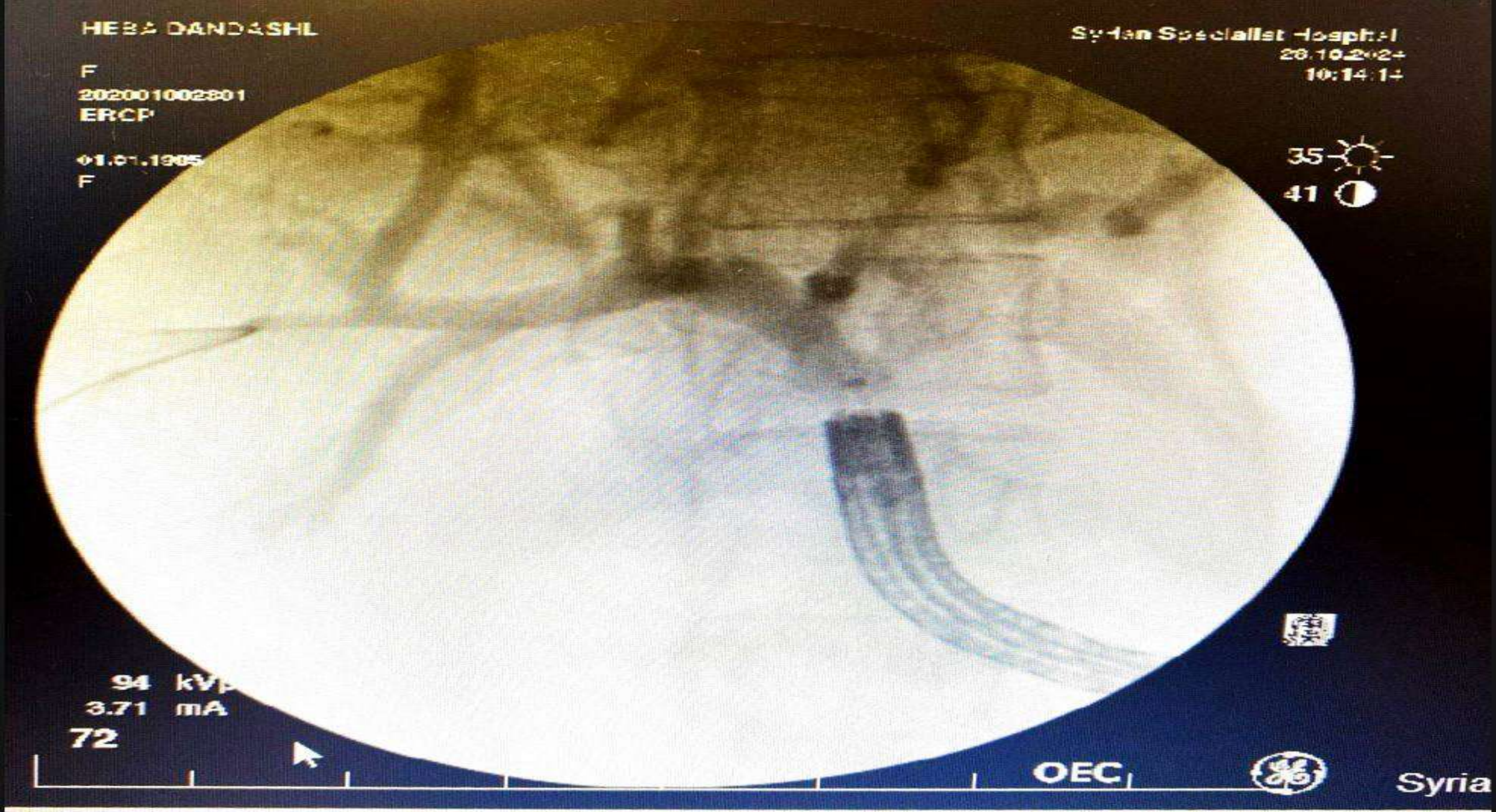
HNS
SYRIAN GI



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THANK YOU