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SRI LANKA GASTROENTEROLOGY

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"...THROUGH KNOWLEDGE FOR A BETTER FUTURE..."

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Separating Science from Medicine

Prof. Rohan Siriwardana
President
SLSG

In the history of Modern Man spanning over 200,000 years, Science as we know it today, started thriving only during the past 500 years. Science defines the world using formulae and logarithms. With scientific advancement, we accumulated a multitude of facts and figures, which we call knowledge. This understanding of Nature and converting it to a pattern gives us the ability to manipulate it. Some changes are for the betterment of humans, while some achieve the complete opposite. This has changed the face of the earth.

A modern scientific practice, especially the practice of Medicine, is based on evidence derived from scientific research. Research starts with a hypothesis. As a crude example, if a drug is tested in a trial we start with the hypothesis, "we think the drug is good, but we don't know". Study methodology is the formula or logarithm that we design to understand our hypothesis. With formal learning we fill our heads with such knowledge, found and told to us by others. There are dangers in modern scientific practices of Medicine, especially, in a rapidly evolving field like Gastroenterology.

As modern evidence based practitioners, we are expected to follow fixed patterns, guidelines and formulae. Working for long periods following this linear pattern of thinking, we as human beings gradually lose the ability to deviate from it. Are we losing the human touch in Medicine and becoming slaves of Modern Science? Medicine is an art of healing, and we interact with people and emotions, and some times balance life and death. Human behavior and problems are complex. Understanding this element that cannot be comprehended by Science is the difference between Humans and Artificial Intelligence.

Should we have this much faith in Science? The gap between Science and myth seems vast, yet if you look closely, you might re-think your opinion. For example lets think of the simple statement: "being happy reduces the incidence of myocardial infractions more than a statin". This seems ludicrous. The real problem is this cannot be tested, as Science does not have a method to quantify the complex human quality of being happy. If a method to assess being happy is discovered, it might change the myth to a scientific fact and add to our collection of facts. Thus the line separating science and myth is smaller than we think.

Perception of intellectual development in Eastern society is different to that of the West. In the West, it is the most knowledgeable person that is valued. In the traditional East, more than knowledge, it is wisdom that matters and is respected. Wisdom is direct understanding, unlike learnt or borrowed knowledge. It is the growth in wisdom that is clouded by blind faith in science. We being an Eastern society, our roots are different. We should learn our own way to harvest the fruits of Science without being slaves to it.

Editorial Board


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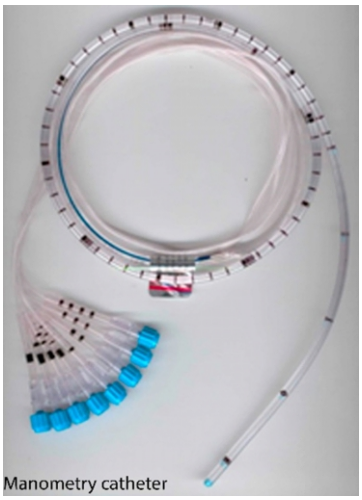
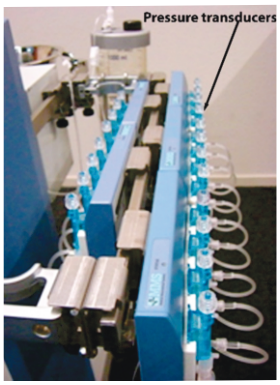
Place of oesophageal physiology studies in current clinical practice

Oesophageal physiology studies comprising of oesophageal manometry and 24-hour pH/Impedance testing, are an essential component in the proper management of certain digestive diseases. The aim of this article is to provide an overview of these investigations and their place in patient management.

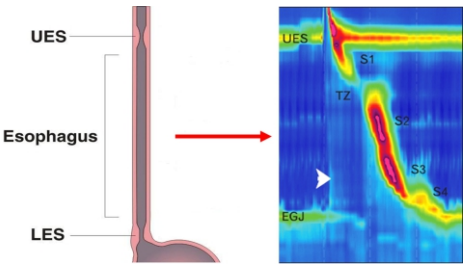
What is oesophageal manometry?

Oesophageal manometry is used to measure to pressures generated by the muscles of the oesophagus and the lower oesophageal sphincter (LES).
The equipment consists of a manometry catheter with a series of pressure transducers and a recording / display device.





The manometry catheter detects pressure changes in the oesophagus. The pressure transducers convert these pressures into an electrical signal. Special software uses this to create a spatiotemporal oesophageal pressure topography plot (i.e. pressure plotted against time and distance along the oesophagus).



What are the indications for oesophageal manometry?

- Oesophageal dysphagia in the absence of a mechanical obstruction
- Non-cardiac chest-pain
- Guide the accurate placement of catheter for 24-hour pH/Impedance studies
- Preoperative assessment of patients being considered for anti-reflux surgery – to exclude an alternative diagnosis (e.g. achalasia) and to assess oesophageal peristaltic function to decide on the degree of tightness of the fundoplication

Oesophageal manometry is used to evaluate diseases of the smooth muscle portion of the oesophagus and the LES. Although the pressures generated by the upper oesophageal sphincter and the upper striated muscle portion of the oesophagus can be measured, the normal values for these have not been defined yet and therefore oesophageal manometry is not yet useful in investigating disorders of these structures.

What should be the patient preparation for oesophageal manometry?

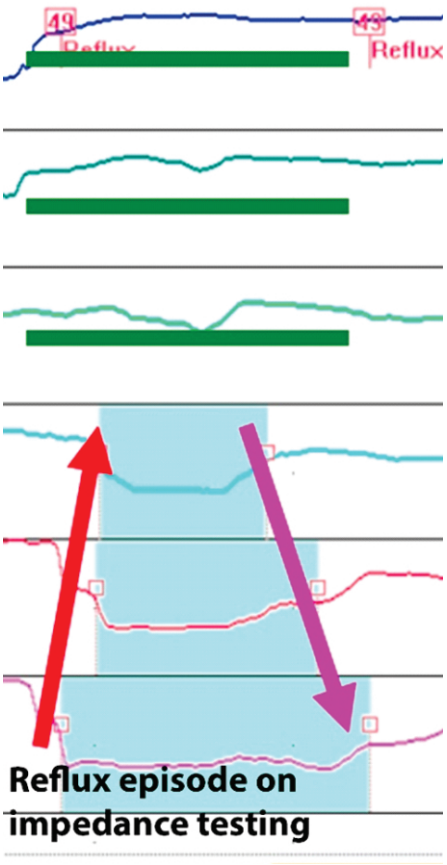
Patients should fast for a minimum of four hours for solids and two hours for liquids prior to the procedure.
Medications known to affect oesophageal motor function should be avoided for 24 hours prior to the test where clinically appropriate (e.g. beta-blockers, nitrates, calcium channel blockers, anticholinergic drugs, prokinetics, nicotine, caffeine, opiates).

What is 24-hour pH/impedance testing?

24-hour pH/impedance monitoring is used in evaluating patients who have symptoms suggestive of gastro-oesophageal reflux (GER) and is considered as the gold standard for detection and characterization of reflux episodes. It consists of a pH/Impedance catheter and a recording device.

Recording device

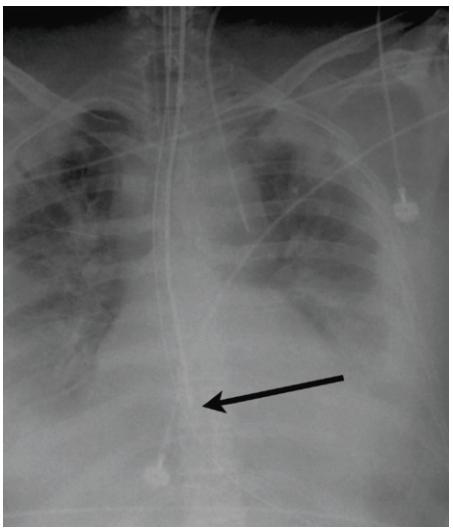
The catheter has a pH sensor in its distal portion and this sensor is kept 5 cm above the upper border of the LES to detect any acid refluxing into the oesophagus. The catheter also has a series of Impedance rings positioned along its axial length which detect changes in resistance to electrical current across adjacent rings. By this means, the catheter can detect whether the refluxing material is liquid (decrease in impedance) or gas (increase in impedance) and whether the material is travelling in antegrade or retrograde direction in the oesophagus (by the order in which impedance changes happen along the catheter). Impedance testing is especially useful in detecting non-acid reflux episodes which are missed by isolated pH testing and therefore is essential if reflux monitoring is to be performed while on acid reducing medication.



24-hour pH/Impedance testing has to be preceded by an oesophageal manometry as this is the most accurate method for finding the exact location of the LES.

What are the indications for 24-hour pH/impedance testing?

- Typical / atypical reflux symptoms that are refractory to proton pump inhibitor (PPI) therapy, when endoscopy is negative for evidence of reflux
- Complications of reflux disease (e.g. acid strictures) to document adequacy of PPI therapy in oesophageal acid control
- Diagnosis of belching syndromes



What should be the patient

preparation for 24-hour pH/impedance testing?

Patient should fast for a minimum of four hours for solids and two hours for liquids prior to the procedure.

Since testing is usually performed off anti-reflux medication, PPIs should be stopped 7 days prior, H2 antagonists 3 days prior and antacids 24 hours prior to testing.

Testing on-therapy is done in the presence of incomplete response to PPI therapy in patients with a high probability of GER (i.e. grade C or D oesophagitis, histology proven Barrett's oesophagus, peptic stricture, prior positive pH testing) to find out why the treatment is failing.

These tests are currently available in the Gastroenterology units of National Hospital of Sri Lanka, Colombo South Teaching Hospital, Colombo North Teaching Hospital, National Hospital Kandy and the teaching hospitals of Jaffna, Anuradhapura and Karapitiya.

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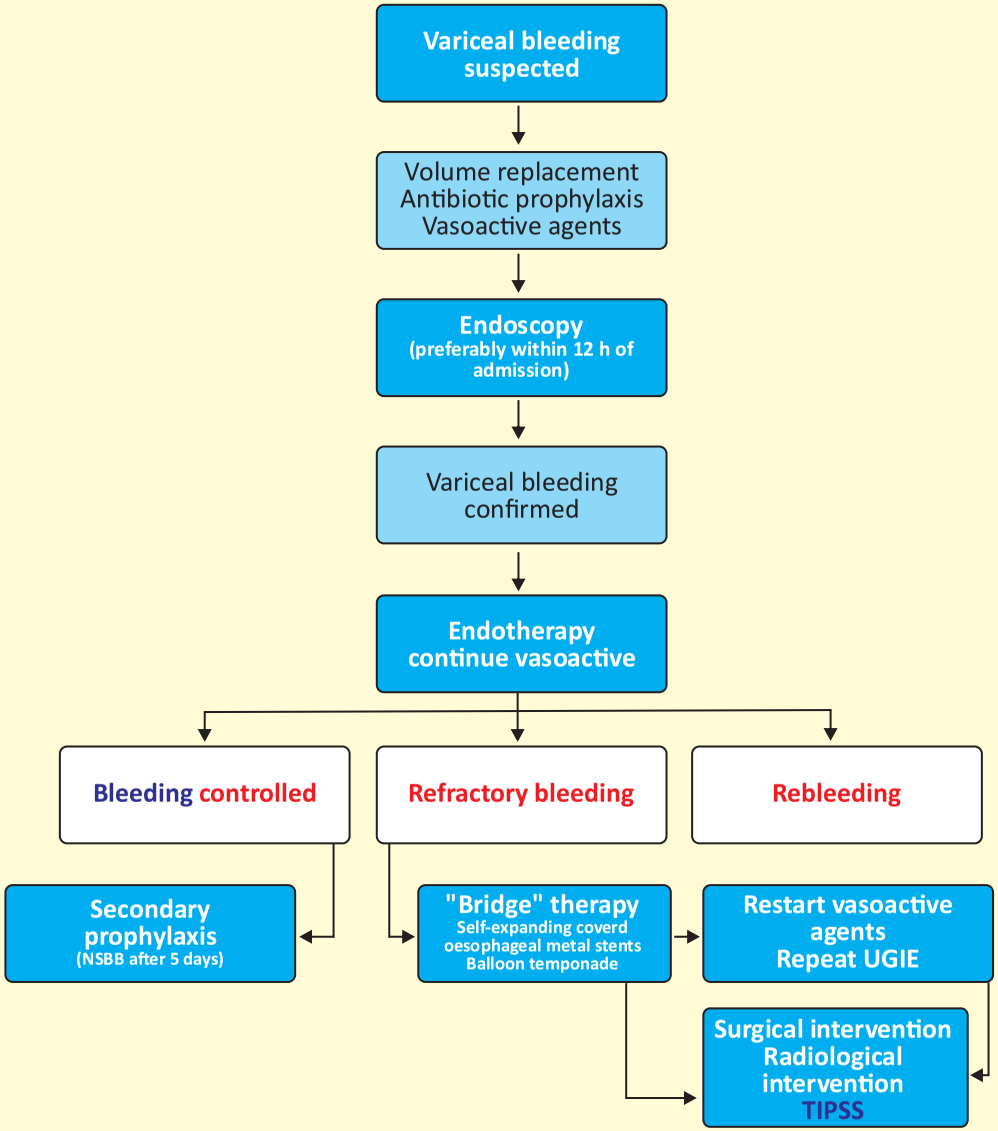
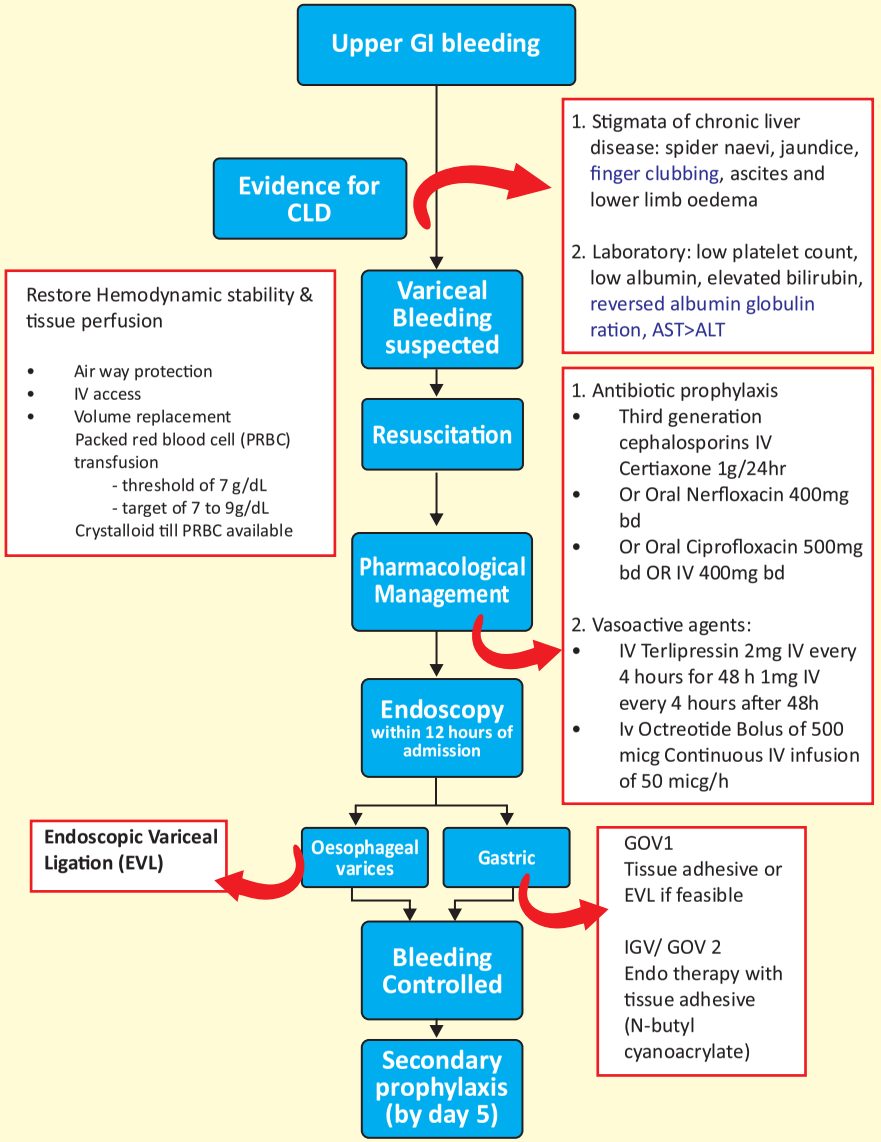
DGH Matara

Management of Acute Variceal Hemorrhage

Overview of Management of Acute Variceal Hemorrhage

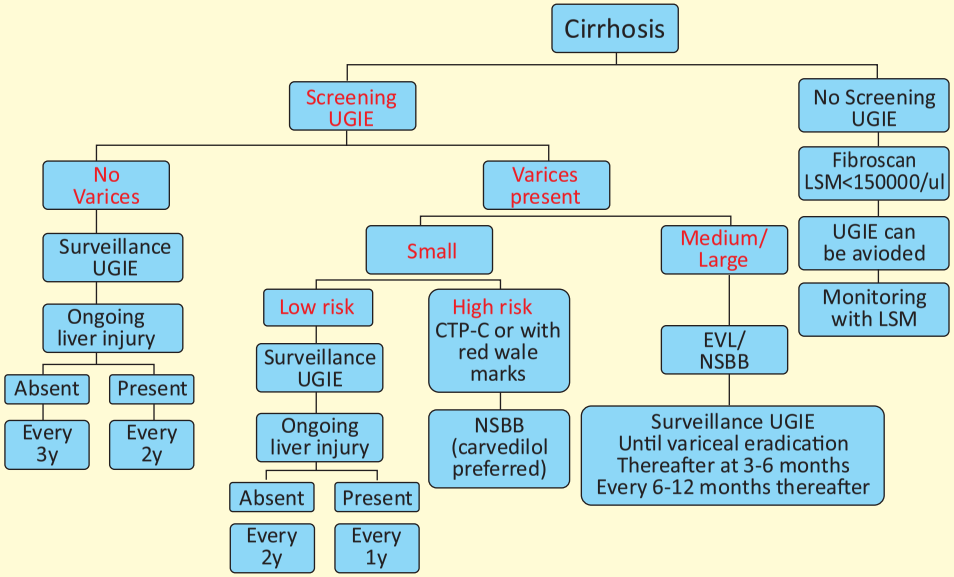


Management of Acute Variceal Hemorrhage Quick Reference Guide

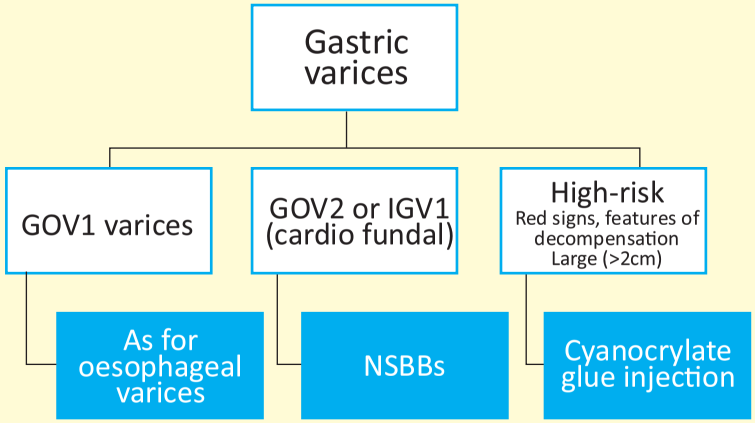


Adopted from SLSG Practice Guideline on the Management of Acute Variceal Hemorrhage

Primary Prophylaxis of Oesophageal Varices



Primary Prophylaxis of Gastric Varices



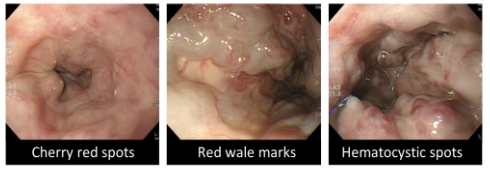
QUICK TIPS FOR MANAGINE BLEEDING ESOPHAGEAL VARICES

EGD and the Banding Procedure

- Always hold the scope in the same position to be sure where the columns are.
- When you're committed to band, don't hesitate, position the cap in the bleeder and suction firmly until there is red out before firing the band. Maintain suction for 3-5 seconds afterwards so that the band can reach the varix base.
- After banding, slowly pull back the scope to prevent band dislodgement.
- If you can't suction the varix adequately, pull back gently and jiggle the tip of the scope gently to allow more varix in. If it is still not being suctioned, abort and place the band somewhere else.
- When sucking, be apposed. Don't push too hard since it will make it harder to suction.
- If with an actively bleeding varix upon scoping for the first time, consider a clip. It could be a bloodbath when you go back in with a bander.
- When the patient is not actively bleeding, take your time with the banding. Select each varix carefully. Deep ulcers form when bands are applied haphazardly on the mucosa rather than the varix.
- If the varix did not blanch after banding, you haven't banded the one that bled yet.
- Sometimes during banding, varices disappear earlier than you thought they would. Avoid placing more bands because it will lead to higher rate of post-band ulcers.
- Ask the nurses and techs what they see too. Many of them have seen hundreds of varices and are good at spotting troublesome ones.

'Red Signs' on Endoscopy

Red wale marks	Longitudinal whip-like marks or streaks
Cherry-red spots	Red, discrete, flat spots <2-3mm
Hematocystic spots	Red, discrete, raised spots >4mm



Follow-up Care

- Although some experts claim there is no particular benefit in continuing Octreotide/Terlipressin after the procedure of hemostasis has been achieved, a safer conservative approach would be to continue the infusion for 72 hours or at least until after the patient resumes oral intake.
- Continue IV antibiotics and IV fluids.
- Watch out for adverse events of variceal ligation namely bleeding, stricture and ulcers.
- To prevent post-EVL ulcer bleed, use IV PPI followed by 2 weeks of oral PPI.
- If the patient develops short-term non-exsanguinating melena 7-14 days post-banding, it may just be a sloughed band and not a recurrent variceal bleed.

On suctioning: Whatever you do, don't let go! Don't let go without firing.

Guideline Committee

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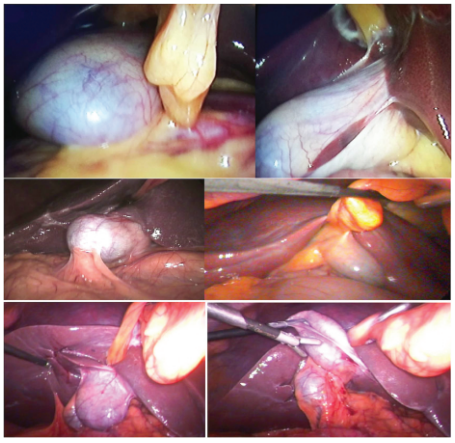
The critical view of safety during laparoscopic cholecystectomy: Strasberg Yes or No (SYoN Study)?

Laparoscopic cholecystectomy (LC) is considered the gold standard for the treatment of symptomatic gallstones. The incidence of bile duct injuries (BDI) in LC is still high (0.3–0.8%) compared to open cholecystectomy (0.2%). LC-related BDIs include minor injuries up to complex hilar injuries, as classified by Strasberg et al in 1995., in which the most severe types correspond to type E injuries including ongoing stricture, complete occlusion, resection or division of the bile ducts. The management of BDI may require additional treatments ranging from endoscopic retrograde cholangiopancreatography (ERCP) to restorative surgery, up to hepatic transplantation in selected cases, leading to a significant increase in postoperative morbidity, mortality, and costs. Despite its widespread use, the scientific evidence supporting this technique to prevent BDI is controversial.

This was an Italian multi-center study between March 2017 and March 2019, the data of 604 patients underwent LC were analyzed in 30 surgical departments were collected on a national database. A survey was submitted to all members of Italian Digestive Pathology Society to obtain data on the preoperative workup, the surgical and postoperative management of patients and to judge, at the end of the procedure, if the isolation of the elements was performed according to the Critical view of safety(CVS). In the case of a declared critical view, photographic documentation was obtained, finally reviewed by an external auditor.

In this study, study population was divided into two groups according to the evidence (Group A; n=11) or absence (Group B; n=593) of BDI and perioperative bleeding. The documented conversion rate ranging from 3 to 9% (average: 4.9%), and the most common reasons were the need for CBD exploration due to the altered Calot's triangle anatomy, BDI, and/or intraoperative bleeding. Conversion to open surgery were caused by BDI in 5 patients (14.3% of converted cases) and bleeding in one case (2.8%)

The non-use of CVS was found in more than a half (54.6%) of procedures in the Group A, and 25.8% in the Group B. Execution of CVS was associated with a significantly lower incidence of BDI and intraoperative bleeding.



Comments

1. IBDI following LC is a well-recognized serious complication in our setting too. This will result in significant long-term morbidity. Therefore, adherent to safe visualization of calots during laparoscopic cholecystectomy and conversion to open when necessary and experience in the procedure are important to prevent this.

2. The CVS, when correctly applied, is confirmed to be the safest technique for recognizing the elements of the Calot triangle.

3. CVS is associated with a significant impact in preventing intraoperative complications (iatrogenic bile duct injuries).

4. Additional training for the correct application of CVS in clinical practice should be desirable to standardize the laparoscopic approach to the gallstone disease.

5. Photographic documentation of CVS during LC and review by external auditor promotes quality assurance.

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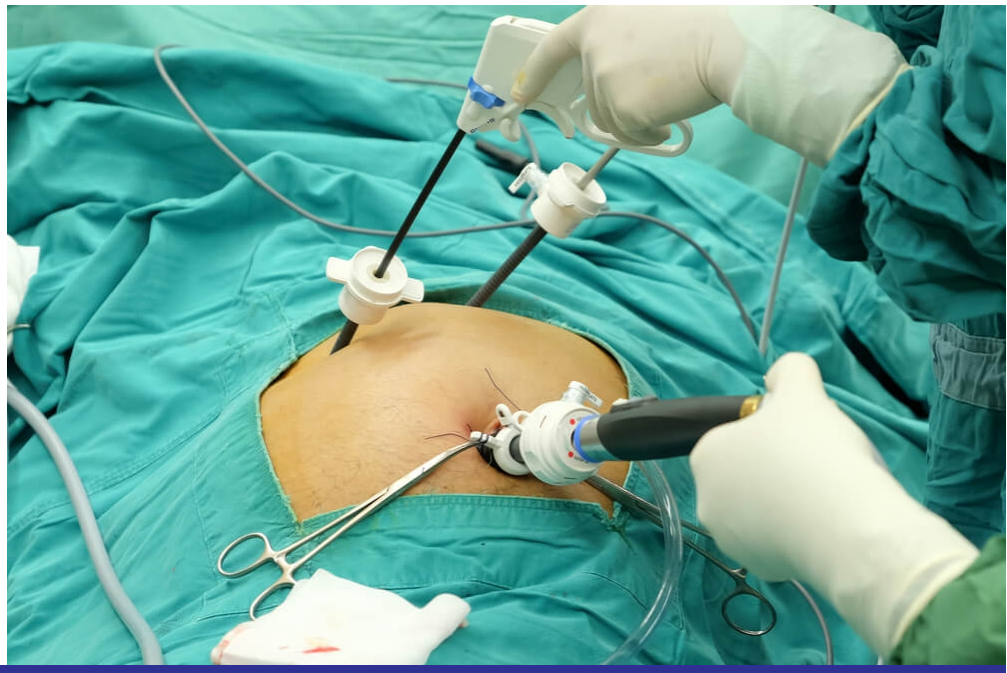


Approach to the Hospitalized Patient with Cirrhosis

1 Recognize and Manage Decompensations: Ascites, Encephalopathy & Variceal Bleeding

💦 Ascites 💦

Epi:
-Most common decompensation
-Annual incidence: 5-10%
-Mortality: 15 – 20% 1 year, >50% 5 year
Dx:
-ALWAYS do Dx Para:
--Basics: Cell count & diff, albumin, TP
--SAAG >1.1, TP < 2.5: portal htn
--SAAG > 1.1, TP > 2.5: consider cardiac
--SAAG <1.1: Unlikely portal htn or cardiac
--250 PMN = SBP
-Consider hepatic hydrothorax (dx thora, diuretics, TIPS if refractory, but try and avoid leaving in drain, if possible!)
Rx:
-Diuretics: Start PO furosemide 40 & spironolactone 100 (2:5 ratio). Hold if AKI.
-Low Na diet (<2g or 88mmol / day)
-LVP: If ≥5L → give albumin 25% 6-8g per liter removed
-Can check Urine Na : K to assess if diuretic responsive: ratio > 1 = diuretic responsive
-Consider fluid restrict if serum Na ≤ 125
-If refractory: Consider TIPS, serial LVP, abdominal drain (palliative)
<u>For SBP</u>
--IV 3rd gen cephalosporin x 5d → lifelong prophylaxis (Cipro or TMP-SMX)
--1.5g/kg of 25% albumin day 1, 1g/kg albumin day 3 → ⬇️ HRS & Mortality

An Extra Word on Infection

-Infection is the **#1 cause of inpatient mortality** in this population
-Low threshold for broad workup in cirrhosis w/ decompensation, alc hep, or HRS
--Blood cultures x2, UA with reflex, CXR, C diff
--Diagnostic paracentesis (if ascites)

🩸 Variceal Bleeding 🩸

Epi:
-Annual incidence: 10-20% 10-20%
-Mortality: 10-20% at 6 weeks
Rx:
-IV Octreotide (⬇️ portal pressure)
-IV PPI (in case it's PUD)
-IV Ceftriaxone 1g qD x 7 days, can use FQ to complete course (⬇️ Mortality)
-Hgb goal 7-9 (⬆️ pRBC → ⬆️ portal pressures)
-Urgent EGD: EV ligation > sclerotherapy
-Rescue: Blakemore tube + TIPS (consider early TIPS)
-Secondary prophylaxis: NSBB + Serial EV banding
- For GV bleeds: consider glue if active bleed vs BRTO vs TIPS

🧠 Hepatic Encephalopathy 🧠

Epi:
-Occurs in 30-40% of patients
-Prevalence: 10-14% at diagnosis
Dx:
-Find underlying trigger
--Triggers: Infxn, Nonadherence with lactulose, Toxins (EtOH, drugs, opiates), Hypokalemia, dehydration, AKI, GIB, Recent TIPS, Vascular occlusion (i.e., PVT), HCC, spontaneous portosystemic shunt
-Do NOT use ammonia to guide clinical mgmt
Rx:
-Lactulose:
--Treat 💪 up front: > 3-4 BMs/day OK by ⬆️ doses
--Enema OK if not able to take PO
--Maintenance 10-20ml TID, 3-4 BMs/day
✅ carefully for dehydration from BMs which → worse hepatic encephalopathy
-Consider adding Rifaximin
-Consider Miralax if intolerant to lactulose

2 Manage Common Scenarios: Alcoholic Hepatitis Hepatorenal Syndrome Prognostication

🍺 Alcoholic Hepatitis 🍺

Epi: Up to 45% mortality at 1 month for severe
Dx: Clinical syndrome: Heavy long-term active (within 2 months of presentation) EtOH use + ⬆️Bili + ⬆️INR + AST:ALT > 2:1 (<300s), +/- ⬆️WBC +/- fever +/- tender hepatomegaly & ⛔ alternate cause
Rx: Address EtOH use disorder. Optimize nutrition.
-Maddrey's ≥32 or MELD ≥ 21 (severe): Prednisolone 40mg/day x 1 month (if no contraindications)
-- Lille Score at Day 7 after starting steroids: < 0.45 → continue steroids

🫘 Hepatorenal Syndrome (HRS-AKI) 🫘

Epi: Up to 80% mortality without transplant
Dx: Think about any patient w/ ascites + AKI
-No response to 🛑 diuretics + volume expansion (albumin 1g/kg x 48 hrs) + r/o other causes
Rx: Albumin 20-50g/day + Vasoconstrictors
Vasoconstrictors: Midodrine/Octreotide vs Norepinephrine vs Terlipressin (not approved in US)
--Important to clarify liver transplant candidacy & consider dialysis if strong survival benefit

🌱 Prognostication and Decision Making 🌱

-Important Prognostication models:
--MELD-Na & Child Pugh, CLIF-ACLF score for ACLF
-Initiate early GOC discussion, clarification of surrogate decision makers, and documentation
-Consider liver transplant (see LT section)
-Patient potentially undergoing surgery?
--Use scores such as VOCAL-PENN or Mayo Risk Score for pre-operative risk stratification + decision making

Common Clinical Terminology

<u>For patients with cirrhosis, use these terms:</u>
Acute Decompensation (AD): Cirrhosis + any of *ascites, encephalopathy, or variceal bleed*
Acute on Chronic Liver Failure (ACLF): Cirrhosis + AD + organ failure (i.e., kidney, liver, etc). *Mortality ACLF > AD*
<u>For patients WITHOUT cirrhosis, use these terms:</u>
Acute Liver Failure (ALF): No known liver dz 6 months prior to presentation + INR ≥ 1.5 + encephalopathy (EtOH-Hepatitis excluded). *High mortality without LT*
Acute liver injury (ALI): ⬆️ INR but ⛔ encephalopathy, typically a/w ⬆️ ALT and ⬆️ Bilirubin. *Mortality ALI < ALF*

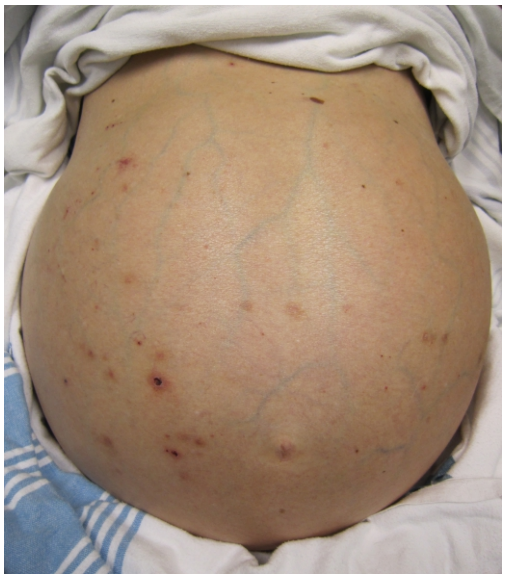
3 Know Your Advanced Therapies

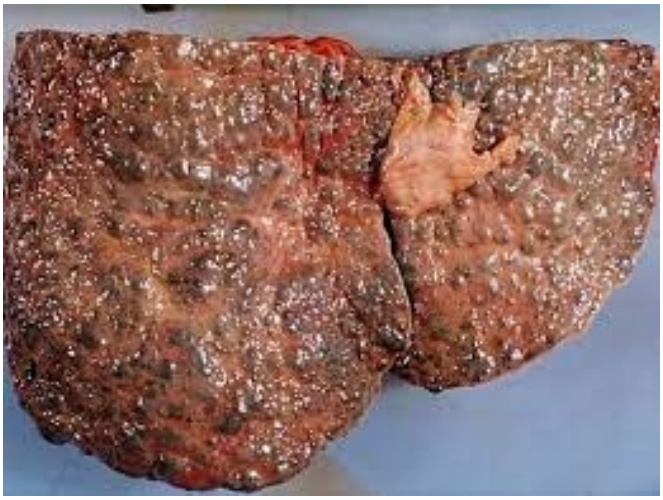
Transjugular Intrahepatic Portosystemic Shunt

<u>Common Indications:</u>
-EV bleed: Rescue active bleed | Consider within 72 hrs of bleed to ⬇️ recurrent bleed or after 72 hrs for 2° ppx
-GV bleed (TIPS vs BRTO or CARTO)
-Refractory portal hypertensive gastropathy
-Refractory ascites
Common Pre-TIPS considerations: TTE, CT to assess vascular patency, MELD, presence of HE
<u>Common Contraindications:</u>
-*Absolute:* CHF, severe pulmonary hypertension, active infection, biliary obstruction
-*Relative:* MELD > 18, HE, central hepatic tumors, severe ⬆️INR or ⬇️Plt, portal/hepatic v. occlusion

〰️ Liver Transplant 〰️

-Typical inpatient indications: Cirrhosis with presence of decompensations, MELD-Na > 15, or MELD-Na < 15 with exception points
-Common Exception points: HCC (within Milan criteria), Hepatopulmonary syndrome, Portopulmonary HTN
-Common contraindications: Poor social support, active substance use w/ poor insight, multi-morbidity





PREVENTING FOOD BOLUS IMPACTION

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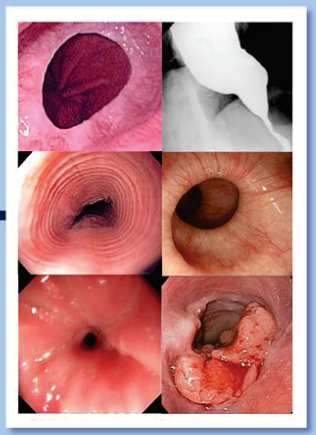
Lumen Issues: Diameter or Motility

1. Schatzki Ring
2. Eosinophilic esophagitis or Lymphocytic esophagitis
3. Stricture (benign/malignant)
4. Achalasia and variants
5. Extrinsic compression

- ✓ Normal mucosal appearance doesn't exclude EoE or LE.
- ✓ Best to take biopsies first time. Helps to expedite treatment.

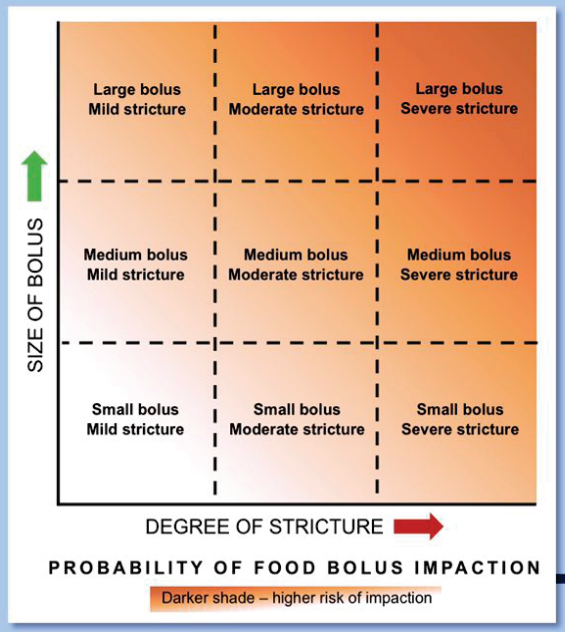


Bolus Issues:

1. Dental
2. Chewing problem
3. Forgetting dentures or ill-fitting
4. Talking
5. Drinking
6. Distractions, no mindfulness
7. Bad chef, poor cooking

Treatment:

- Diet modification
- Behavior modification
- Cooking lessons
- Dental referral

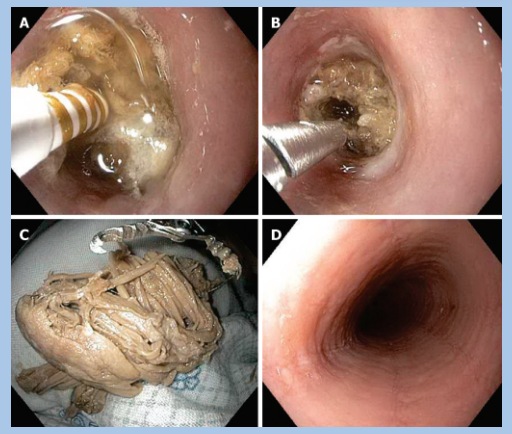


Probability is directly proportional to the size of bolus and inversely proportional to the size of lumen

Some Pearls

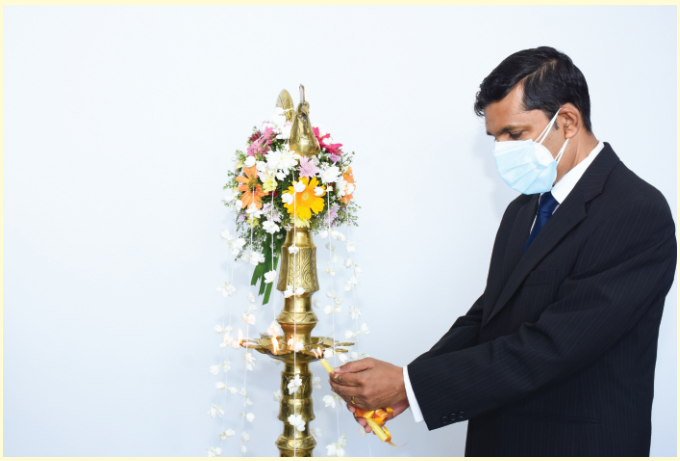
- Don't delay the endoscopy, the procedure is easier if done early.
- Delay means the bolus is too soft and difficult to clear, mucosa too bruised and tends to bleed and even risk of perforation.
- Talk to your anesthesia colleagues directly and plead your case boss to boss.
- Mental rehearsal of technique helps, explain to nurse/tech what the game plan is, keep all your tools ready – snare, cap, net, grasping forceps, tri-pronged grabbers, over-tube.
- Be prepared to try different things. Every case is different.

Be patient. Don't rush.



THE GRAND OPENING OF GASTRO HEAD QUARTERS

30th October 2021



GASTRO 2021 CEREMONIAL INAUGURATION


ANNUAL ACADEMIC SESSIONS
SRI LANKA SOCIETY OF GASTROENTEROLOGY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GASTRO 2021 HIGHLIGHTS

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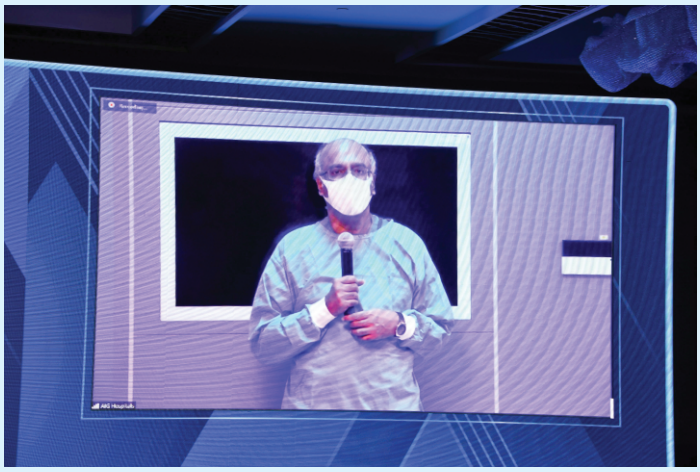

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