Variceal Upper GI bleed : more than meets the "endoscopic eye" …

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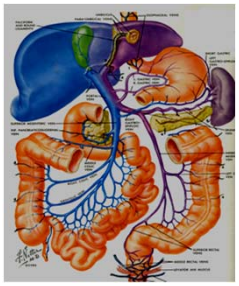
BSGIE, 9-2016

1. The conundrum "Variceal hemorrhage"
2. Treating variceal hemorrhage : an integrated algoritm
3. Rescue therapies in acute situations
4. Conclusions

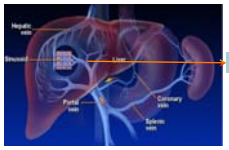
Variceal hemorrhage & portal hypertension: inevitably linked

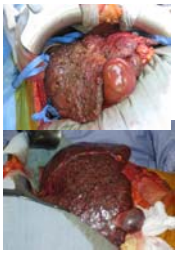
"… a syndrome that naturally develops in diseases and conditions that impede the natural drainage of the portal vein…"



Herrick J Exp Med 1907

Cirrhotic portal hypertension

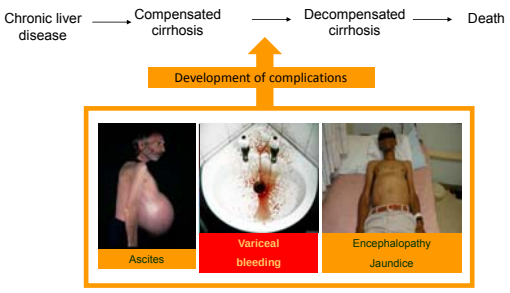




Cirrhotic portal hypertension = responsible for 90% of all causes of PHT

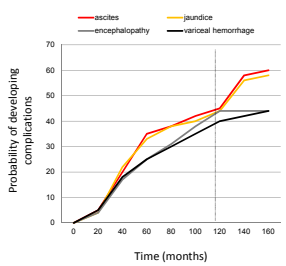
Natural history of chronic liver disease

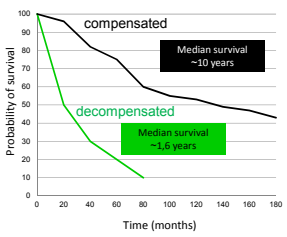
Variceal bleeding = a decompensating event and changes the setting !



Natural history of chronic liver disease

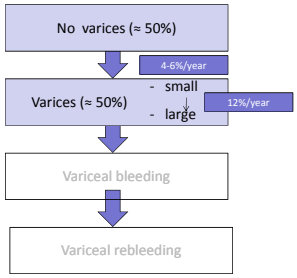
Decompensation warrants intensified FU & consideration for liver Tx





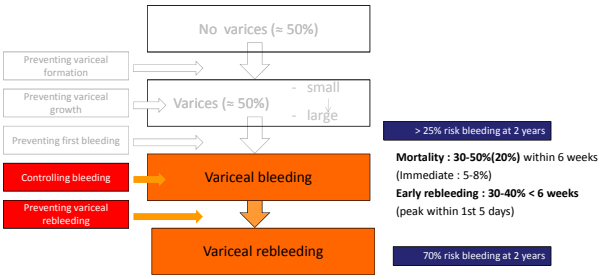
Gines et al. Hepatology 1987

Natural history of gastrooesophageal varices in cirrhosis



Sarin classification of gastro-esophageal varices

Variceal hemorrhage : risk and mortality



1. The conundrum "Variceal hemorrhage"
2. Treating variceal hemorrhage : an integrated medical, endoscopical & interventional standardized algoritm
3. Rescue therapies in acute situations
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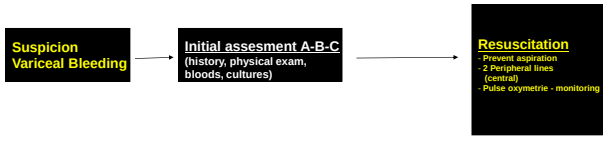
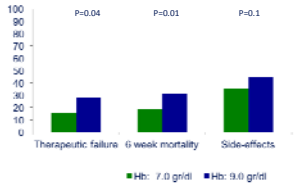
Guidelines for management of variceal hemorrhage
NOT *applied in 50% of cases*
Dig Liver Dis 2014



Suspicion Variceal Bleeding → **Initial assesment** (history, physical exam, bloods, cultures) → **Resuscitation**
- Prevent aspiration
- 2 Peripheral lines (central)
- Pulse oxymetrie
- PC when Hb < 7g%

214 cirrhotics with AVB

Restrictive transfusion policy (Hb: 7 g/dl) N=109 | Liberal transfusion policy (Hb: 9 g/dl) N=105



- no recommendations for coagulation factors
- platelet transfusion treshold ≤ 40.000

Colomo A et al. AASLD 2009 #232
Castaneda et al. Hepatology 2001
Villanueva C et al NEJM 2013
BAVENO VI 2015

Suspicion Variceal Bleeding → **Initial assesment** (history, physical exam, bloods, cultures) → **Resuscitation**
- Prevent aspiration
- Peripheral lines (central)
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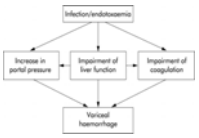
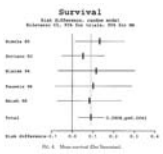
- PC when < 7g%
- antibiotics (FQ)





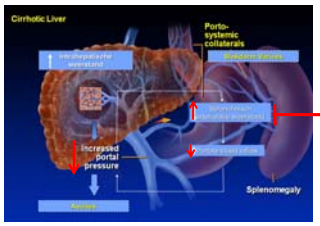
- 1ste line : FQ 5-7 days
- 2nd line : 3rd generation cephalosporine
  - when on FQ prophylaxis
  - "advanced cirrhosis"

Infection (20-50%) = frequent trigger of bleeding, failure to control bleeding and rebleeding

Thalheimer U et al. Gut 2004
Bernard B et al. Hepatology 1999
Fernandez J et al. Gastroenterology 2006
BAVENO VI 2015

Suspicion Variceal Bleeding → **Initial assesment** (history, physical exam, bloods, cultures) → **Resuscitation**
- Prevent aspiration
- Peripheral lines (central)
- Pulse oxymetrie
- PC till Hb 7g%
- antibiotics (FQ)
- vasoactive drugs ASAP
  - Somatostatin
  - Terlipressin

NEED TO BE STARTED BEFORE ENDOSCOPY !!!!



Somatostatin
250mcg bolus – 3mg/12hrs

Terlipressin
2mg loading dose – 1-2mg/4hrs

Duration : 2-5 days

Levacher S, et al. *Lancet* 1995
Burroughs et al. Gastroenterology 1990

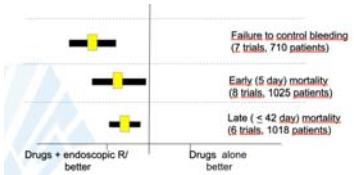
Suspicion Variceal Bleeding → **Initial assesment** (history, physical exam, bloods, cultures) → **Resuscitation**
- Prevent aspiration
- Peripheral lines (central)
- Pulse oxymetrie
- PC till Hb 7g%
- antibiotics (FQ)
- vasoactive drugs ASAP
  - Somatostatine
  - Terlipressine
- HE prophylaxis

Double dose of somatostatin (500mcg instead of 250mcg) upon ACTIVE bleeding at ENDOSCOPY

Moitinho et al . J Hepatol 2001
Wells M et al. APT2012

Suspicion Variceal Bleeding → **Initial assesment** (history, physical exam, bloods, cultures) → **Resuscitation**
- Prevent aspiration
- Peripheral lines (central)
- Pulse oxymetrie
- PC < Hb 7g%
- antibiotics (FQ)
- vasoactive drugs:
  - Somatostatine
  - Terlipressin

Endoscopy



Banares R et al.

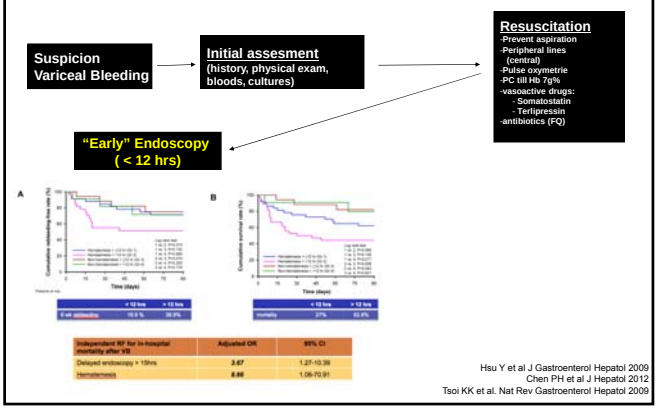
Suspicion Variceal Bleeding → **Initial assesment** (history, physical exam, bloods, cultures) → **Resuscitation**
- Prevent aspiration
- Peripheral lines (central)
- Pulse oxymetrie
- PC till Hb 7g%
- vasoactive drugs:
  - Somatostatin
  - Terlipressin
- antibiotics (FQ)

Endoscopy : when ?

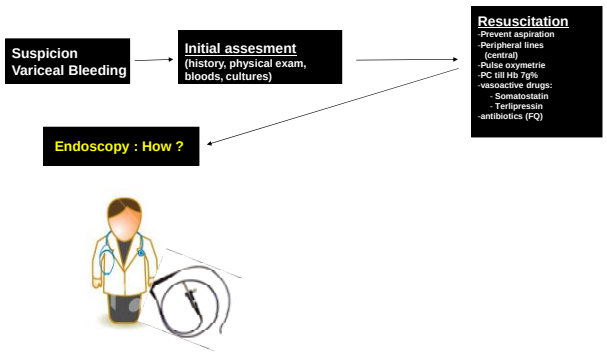
Tsoi KK et al. Nat Rev Gastroenterol Hepatol 2009

Q1 : Who scopes a patient stabilized and admitted with hematemesis and suspicion of variceal hemorrhage …

1. within 3 hours after admission
2. at the latest always within 12 hours after admission
3. within 12 hours after admission, but only during the week
4. the next coming working day

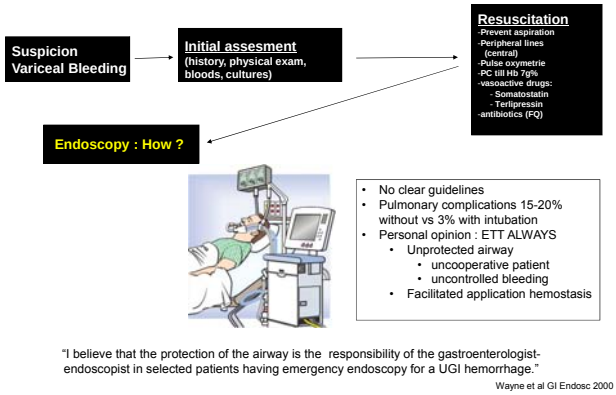


Hsu Y et al J Gastroenterol Hepatol 2009
Chen PH et al J Hepatol 2012
Tsoi KK et al. Nat Rev Gastroenterol Hepatol 2009



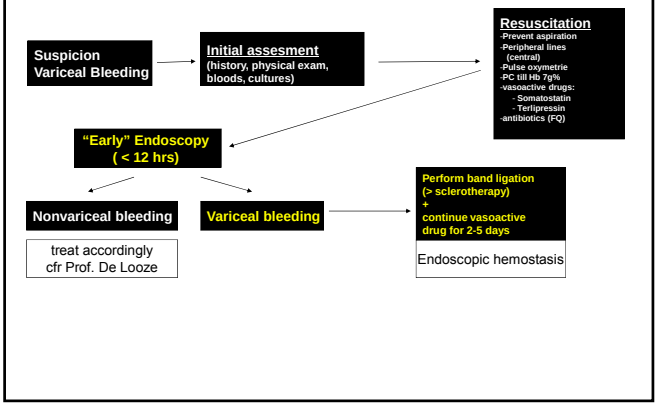
Q2 : Who has patients intubated for upper GI endoscopy and suspicion of variceal hemorrhage ?

1. Never
2. Always
3. Sometimes (in > 50% of cases)
4. Sometimes (in < 50% of cases)



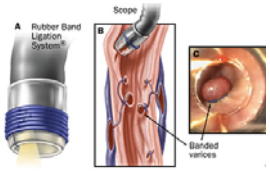
"I believe that the protection of the airway is the responsibility of the gastroenterologist-endoscopist in selected patients having emergency endoscopy for a UGI hemorrhage."

Wayne et al GI Endosc 2000



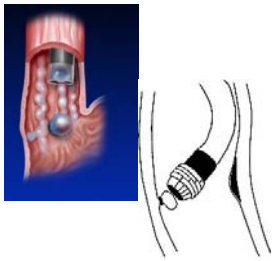
Endoscopic band ligation (EBL)

- Technique of choice for esophageal varices
- rubber band ligatures (4-**6**-10-shooter)
- Determine landmarks (Z-line, classification, grade, location, …)



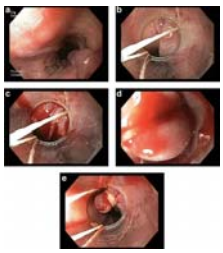
Endoscopic band ligation (EBL)

- Technique of choice for esophageal varices
- rubber band ligatures (4-**6**-10-shooter)
- Determine landmarks (Z-line, classification, grade, location, …)
- Start at Z-line – spiral step up
- As vertical as possible on the varix and suck in the maximal possible bleb of varix

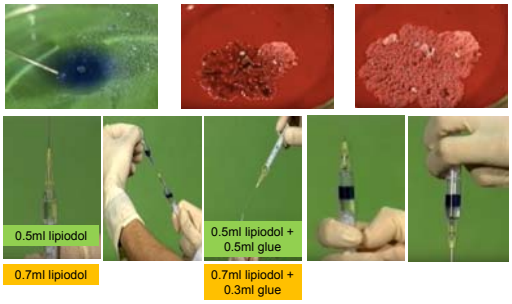


Endoscopic band ligation (EBL)

- Technique of choice for esophageal varices
- rubber band ligatures (4-**6**-10-shooter)
- Determine landmarks (Z-line, classification, grade, location, …)
- Start at Z-line
- As vertical as possible on the varix and suck in the maximal possible bleb of varix
- DO NOT RELEASE WHEN SPURTING BLEEDING arises (bursting red spot)
- "Varix drop-off" after 3 days



Tissue adhesives
"Glue" - N-butyl-2-cyanoacrylate (Histoacryl)



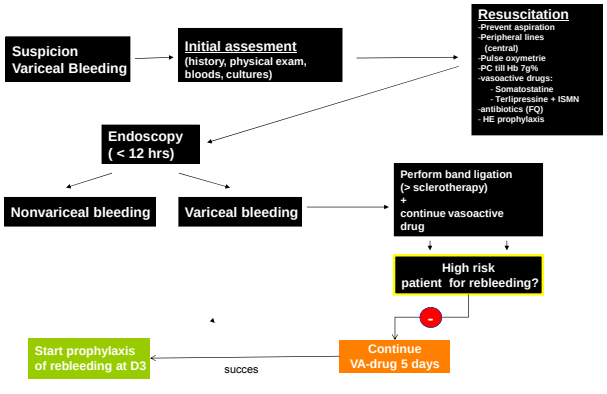
Tissue adhesives
"Glue" - N-butyl-2-cyanoacrylate (Histoacryl)

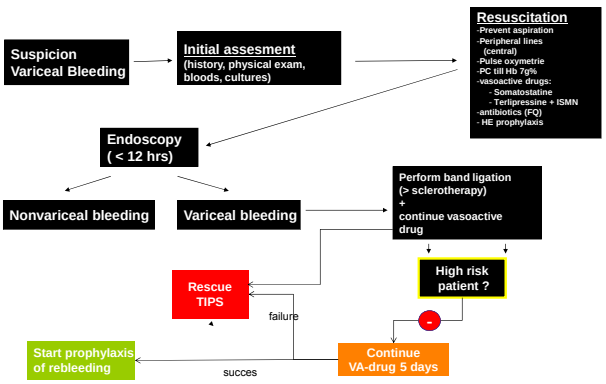
- flush needle with 2cc glucose 5%
- Load syringe with glue
- choose puncture site

- Puncture varix
- Inject 1cc glue
- Immediately exchange for syringe with glu 5%

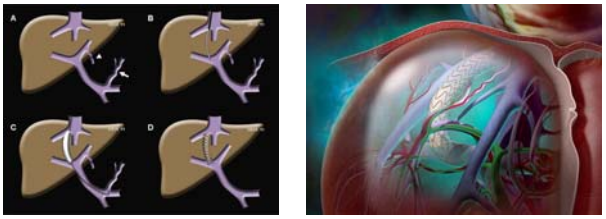
- Inject 2cc at least to clear the needle from remnant glue
- pull back out of varix at 1.5-2cc to have a "seal"
- Don't pull back needle-catheter in the scope

Repeat steps and inject until polymerization of the varix

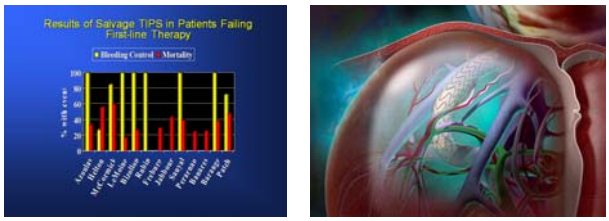


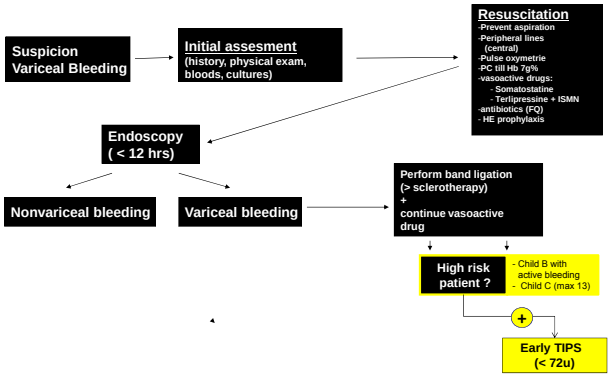


Transjugular Intrahepatic Portosystemic Shunt (TIPS)



Transjugular Intrahepatic Portosystemic Shunt (TIPS)



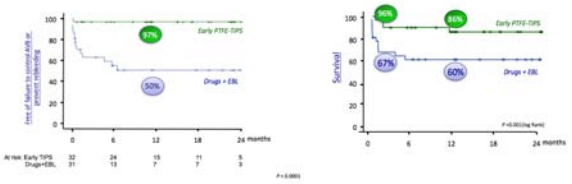


BAVENO VI consensus

Early TIPS for patients at high risk for early rebleeding

- Child B with active bleeding
- Child C (max 13) irrespective of activity of bleeding

DOES NOT PRECLUDE INITIAL APPROACH
TIPS INSERTION WITHIN 72 HOURS



Number of patients need to be treated to safe a life: 3.3

Garcia-Pagan JC et al NEJM 20

Q3 : Who applies the principle of early TIPS ?

1. Never
2. Always
3. Sometimes in > 50% of cases
4. Sometimes in < 50% of cases

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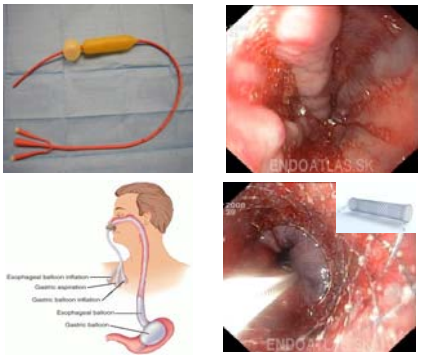
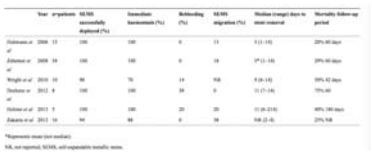
Sengstaken-Blake more & Ella-stent
Emergency tamponade for bridging



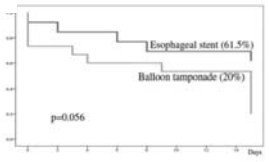
Self-expandable metal stent
(SX-ELLA Danis stent, 12x35mm)



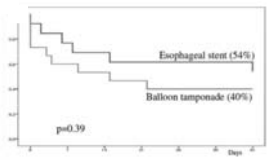
El Sayed, O'Beirne J, et al. Fronline Gastroenterol 2015

Balloon tamponade vs Stent

Being free of R/ failure



6 week survival

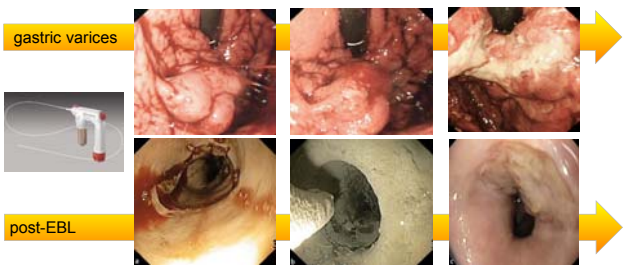


4 year recruitment in 4 hospitals
(n=58 patients screened, 18 included with refractory bleeding)

Escorsell A et al. Hepatology 2016

Rescue therapy in refractory variceal bleeding or post-EBL ulcer bleeding : hemostatic powder (Hemospray)

gastric varices



post-EBL

Stanley AJ et al Endoscopy 2013
Holster et al. J Hepatol 2012.
Ibrahim M et al. Endoscopy 2014

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Conclusions:

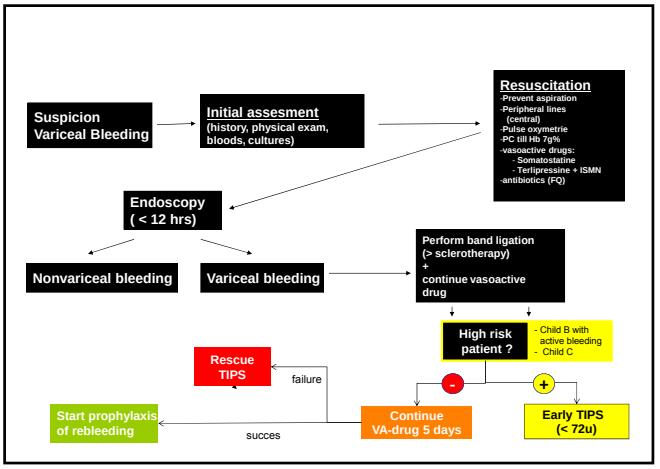
Variceal hemorrhage is **a serious bleeding complication in the UGI tract** and represents at the same time **a decisive transition in the natural history** of a patient with cirrhosis

Focus on **controlling bleeding** but also on **preventing rebleeding**

The management of VH is best served with **an algoritm** that is rigorously applied at each situation suspect for VH

This algoritm involves the **combined implementation of medical, endoscopic and potentially also interventional radiological measures**

Novel auxilliary bridging tools, such as hemostatic powder and selfexpandable stents, might prove beneficial



How to define failure ?

Failure to control bleeding

- within 6 hours after time zero
  - transfusion ≥ 4 U PC
  - impossibility to raise BP with 20mmHg or ≥ 70mmHg

Bpsyst

- after 6 hours from time zero
  - hematemesis
  - drop in Bpsyst ≥ 20mmHg
  - transfusion of ≥ 2 U PC more to achieve Hb ≥ 7g%

Rebleeding

- new episode of melena or hematemesis after a period of 24 hours or more of stabilization
- considered significant if ≥ 2 U PC needed to attain Hb 7g%
- early rebleeding: if less than 1week after index bleeding

BAVENO V consensus

How to define failure ?

Failure to control bleeding

- within 6 hours after time zero
  - transfusion ≥ 4 U PC
  - impossibility to raise BP with 20
- after 6 hours from ti
  - hemat
  - mmHg
  - ≥ 2 U PC more to achieve Hb ≥ 7g%

Failure implies change of strategy !!!!!!

- new episode of melena or hematemesis after a period of 24 rs or more of stabilization
- considered significant if ≥ 2 U PC needed to attain Hb 7g%
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BAVENO V consensus