

Splenic Injury

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Aims :

- understanding the Management of splenic Trauma whether Surgery or conservative treatment.

Objectives:

- Understanding the Anatomy ,Histology , and Physiological function of the spleen.
- Indications of surgical intervention.
- Indication of conservative treatment.
- Associated injuries .
- Complications of splenectomy.

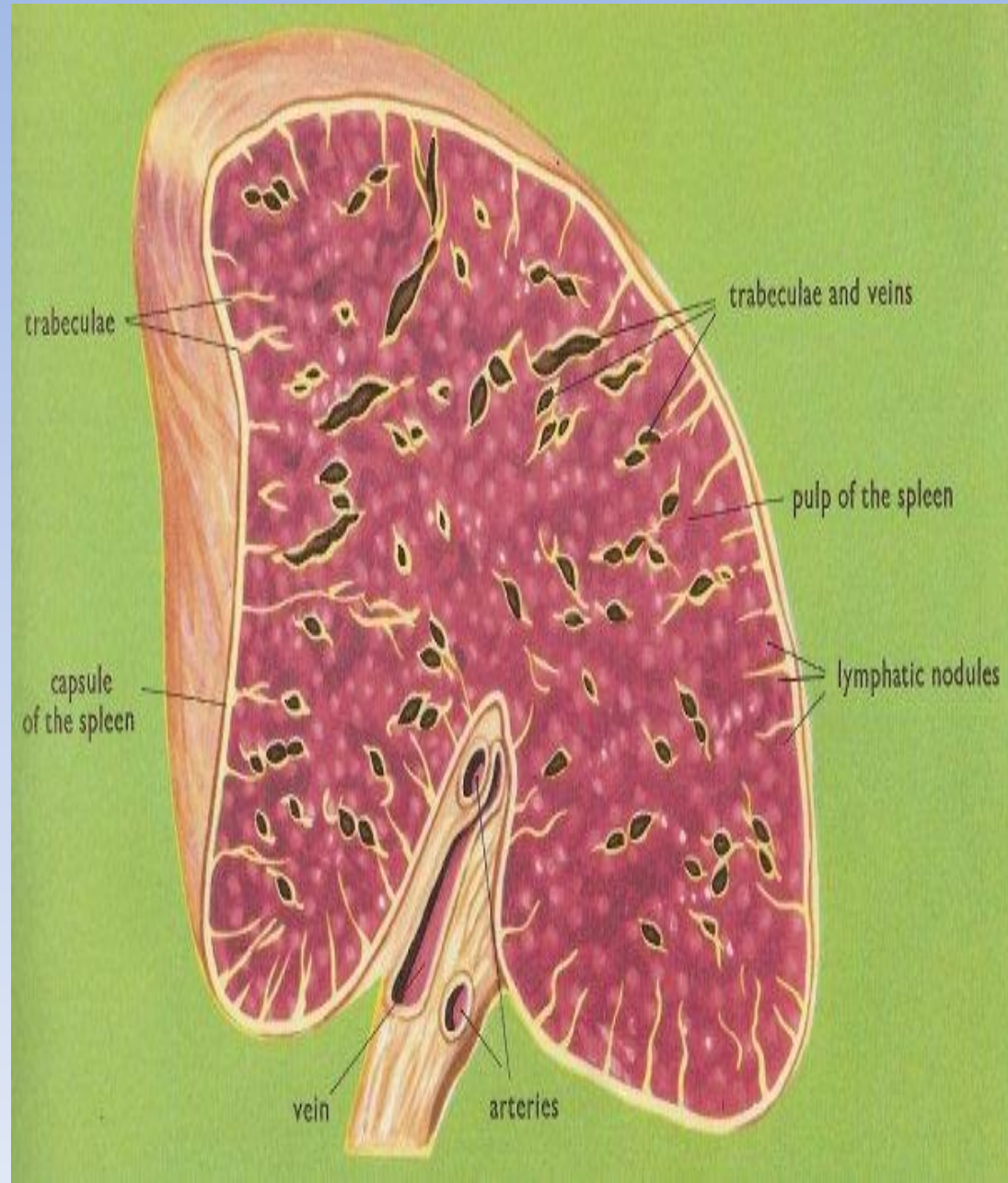
Anatomy of Spleen:

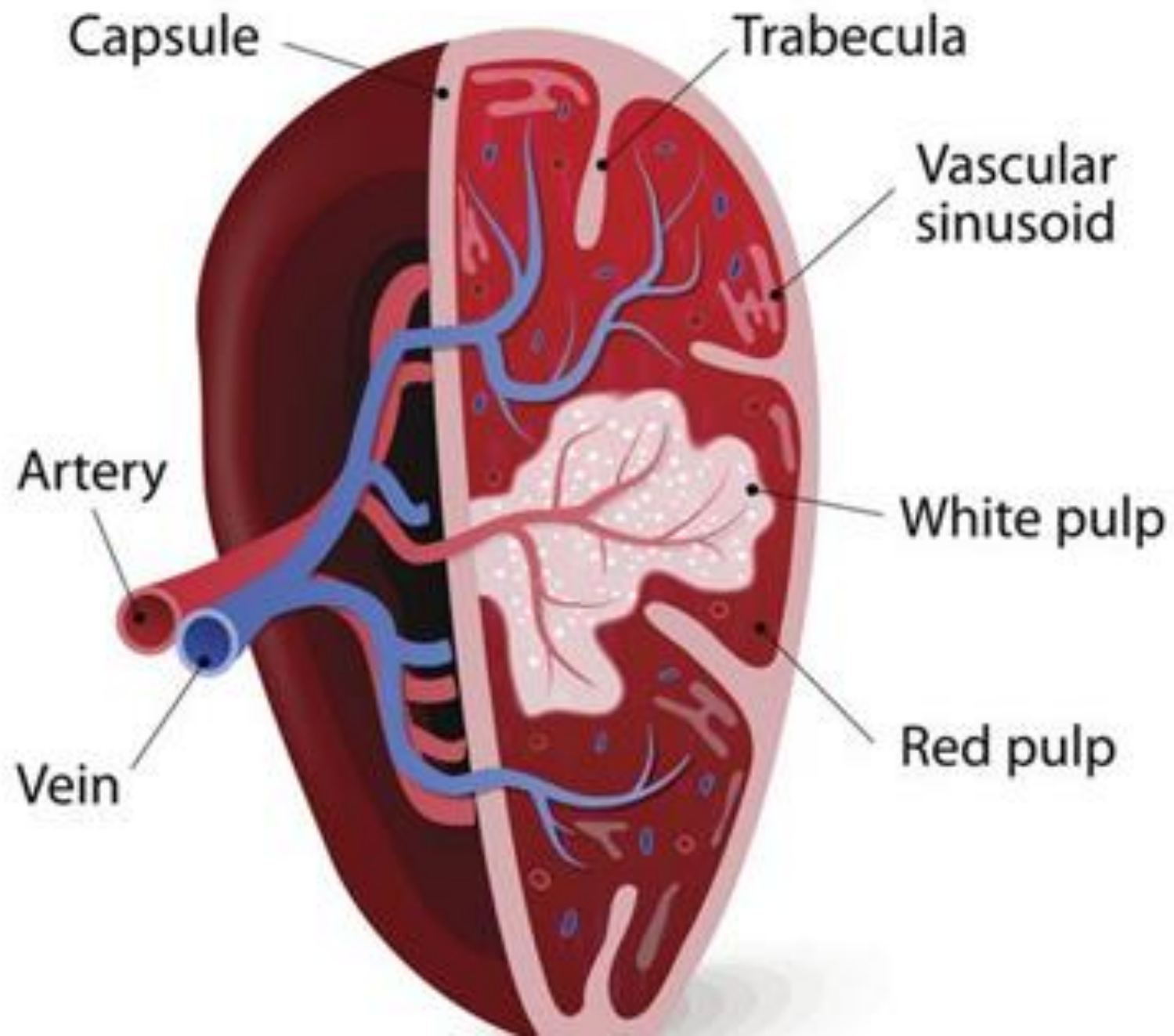
The spleen is oval in shape, purplish in color lies in the left hypochondrium, (extend from 9-11 ribs). The average adult spleen is 7 to 11 cm in length and weighs 150 g .



Hitology of The spleen

The splenic parenchyma consists of white and red pulp that is surrounded by capsule and there is trabeculae within the parenchyma.





Fucntion of The spleen

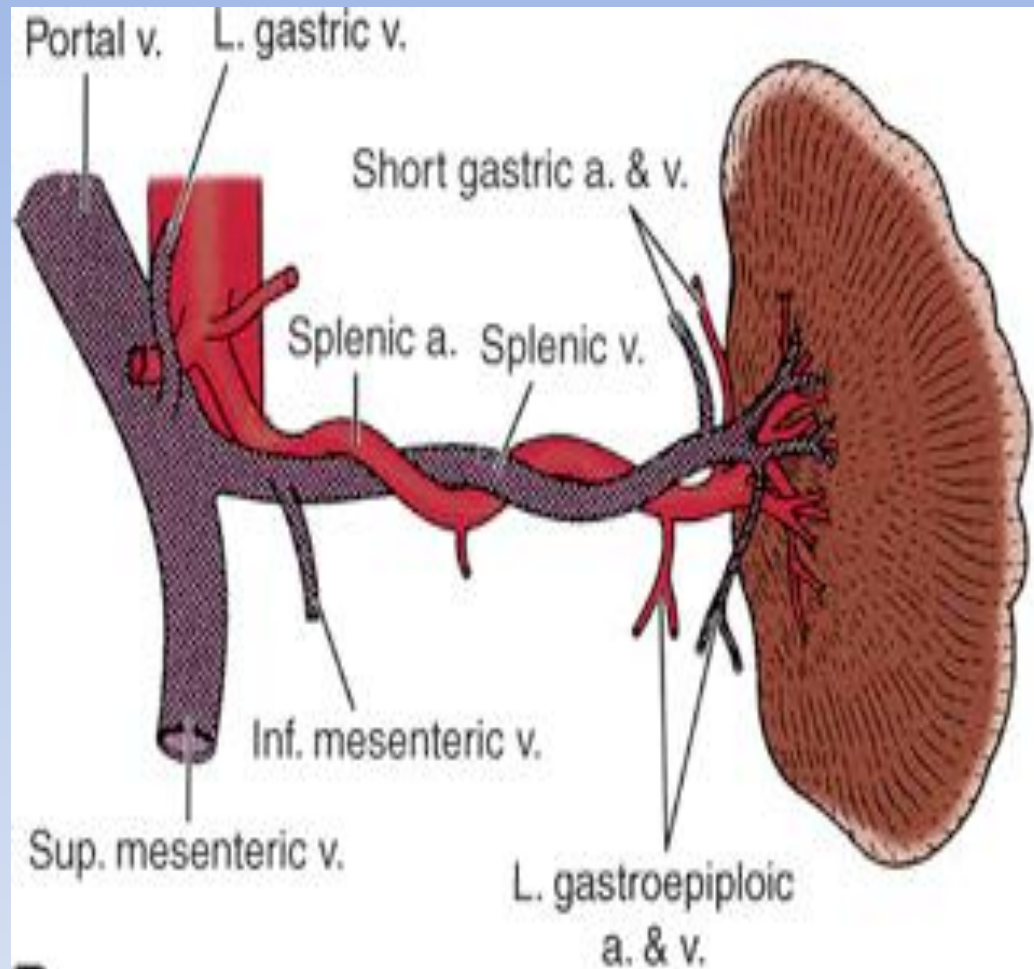
- Filtration (Macrophages)
- Immune Function(IgM Antibodies)
- Storage
- Hematopoiesis

Blood Supply

Arterial : The spleen is supplied by **splenic artery** arises from the coeliac trunk .

Venous drainage: The splenic vein runs behind the pancreas.

Nerve supply: Sympathetic nerve fibres.



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Source: Dale A. Dangleben, James Lee,
Firas Madbak: ABSITE Slayer, 1st Edition

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Splenic Trauma :

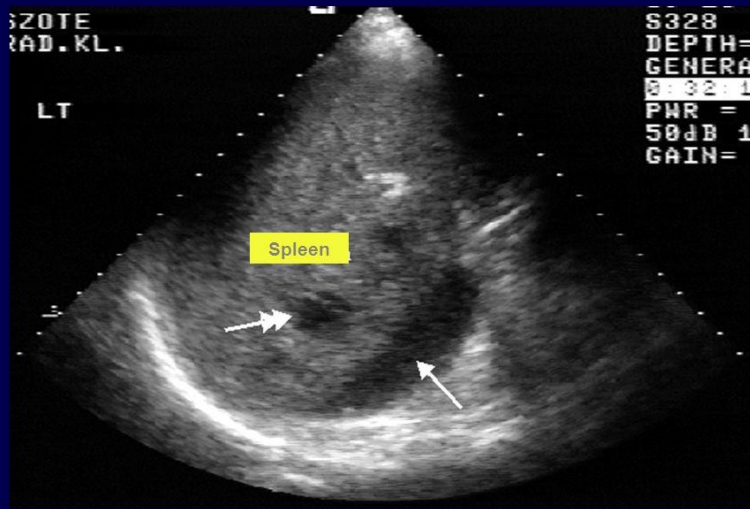
- Either Blunt or Penetrating injuries.
- Penetrating Injuries Need urgent surgical Exploration.
- Blunt injuries treated according to The vital status of the injured patient.
- Vitally stable patients with Blunt abdominal injuries Treated conservatively.
- Vitally unstable patient with blunt abdominal injuries need urgent surgical intervention.

Investigations

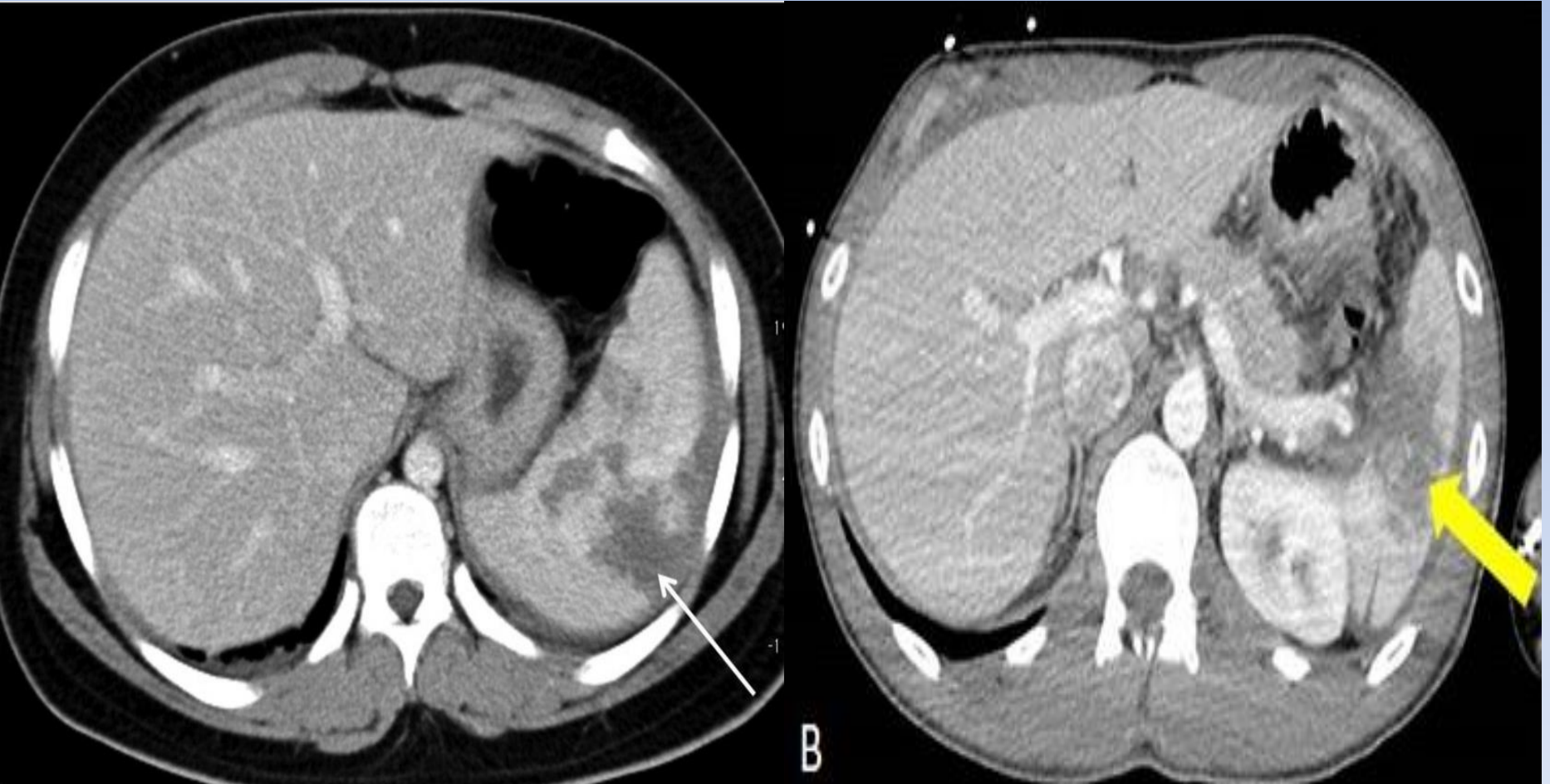
1. blood test: Hb%, RBS, cross match, prepare blood
2. imaging: U/S ,CT scan X-ray abdomen & chest.
3. Angiogram.

Ultrasonic view for splenic injury

Splenic fracture



CT-Scan view for Splenic Injury:



Indications of non operative Tx:

1. Hemodynamic stable patient

2. Only splenic injury

3. Grade 1,2 & 3
(even 4 in pediatric)

Conservative Tx:

- ✓ ICU admission
- ✓ Resuscitation (fluid ,Blood)
- ✓ Bed rest
- ✓ Antibiotics
- ✓ Analgesia
- ✓ Serial abdominal examination

Surgical Tx (Open Splenectomy /splenoraphy)

- Indications of Surgery :

- 1.hemodynamic instability

- 2.HB<10 g/dl.

- 3.need for massive blood transfusion (> 6 u/d)

- 4.ongoing active bleeding inspite of resuscitation

- 5.associated injury.

- 6.grade 5 injury .

Grades of splenic injury:

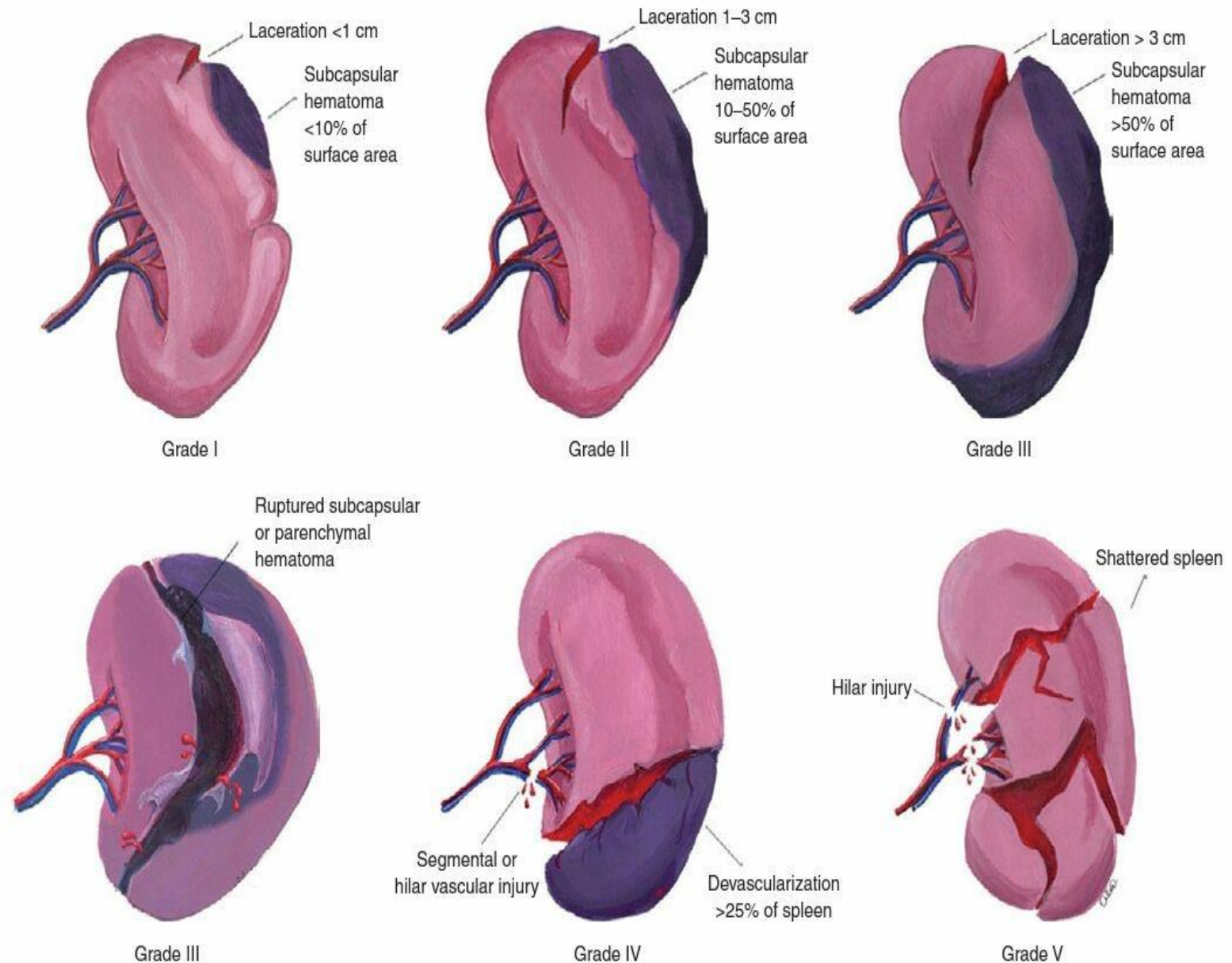


Figure 5.11 Grades of splenic injuries, according to the American Association for the Surgery of Trauma classification. Most grade



Possible Associated Injuries

1. Liver injury
2. Tail of pancreas
3. Lt kidney
4. Lt colon
5. Diaphragm
6. Lt lung
7. Stomach & bowel injury
8. lower ribs
9. Lt sided haemothorax

Complications of Splenectomy:

1. Bleeding & shock & DIC
2. Sepsis & OPSI
3. Haematemesis & gastric dilatation
4. Pancreatitis & pancreatic fistula
5. Lt sided pleural effusion & atelectasis
6. Lt side colonic injury
7. Change in cellular component of blood
(thrombocytosis, leukocytosis)
8. Portal vein thrombosis
9. Lt subphrenic abscess

Vaccination: Splenectomized patients should be vaccinated against :(Timing??)

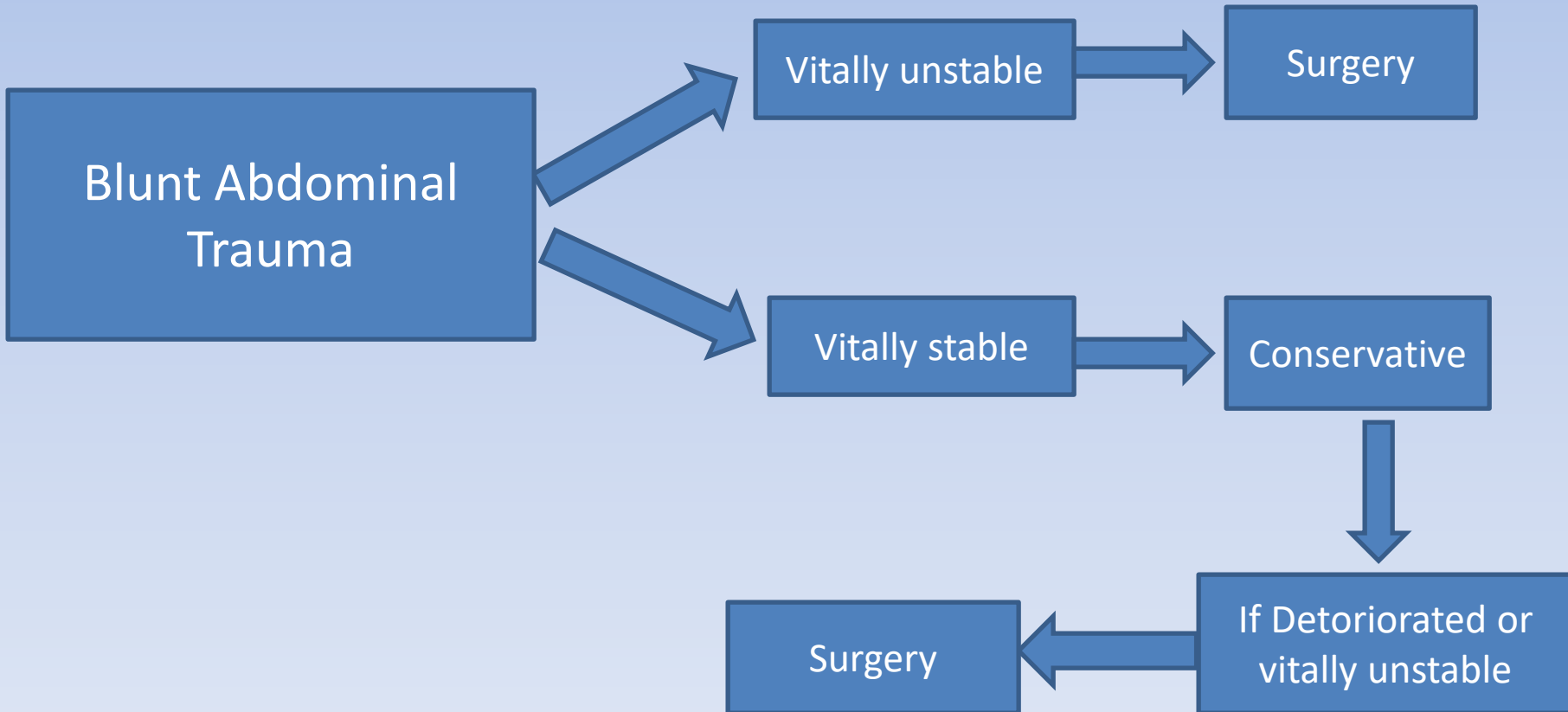


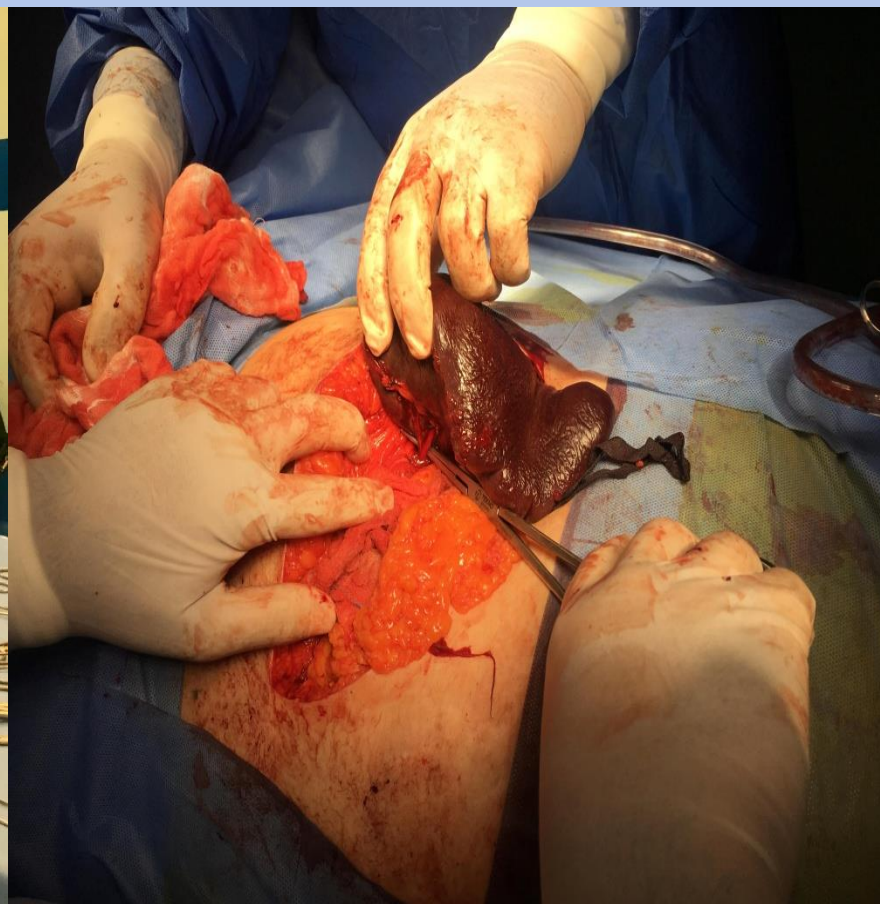
1. Pneumococcal

2. Neisseria
Meningitidis

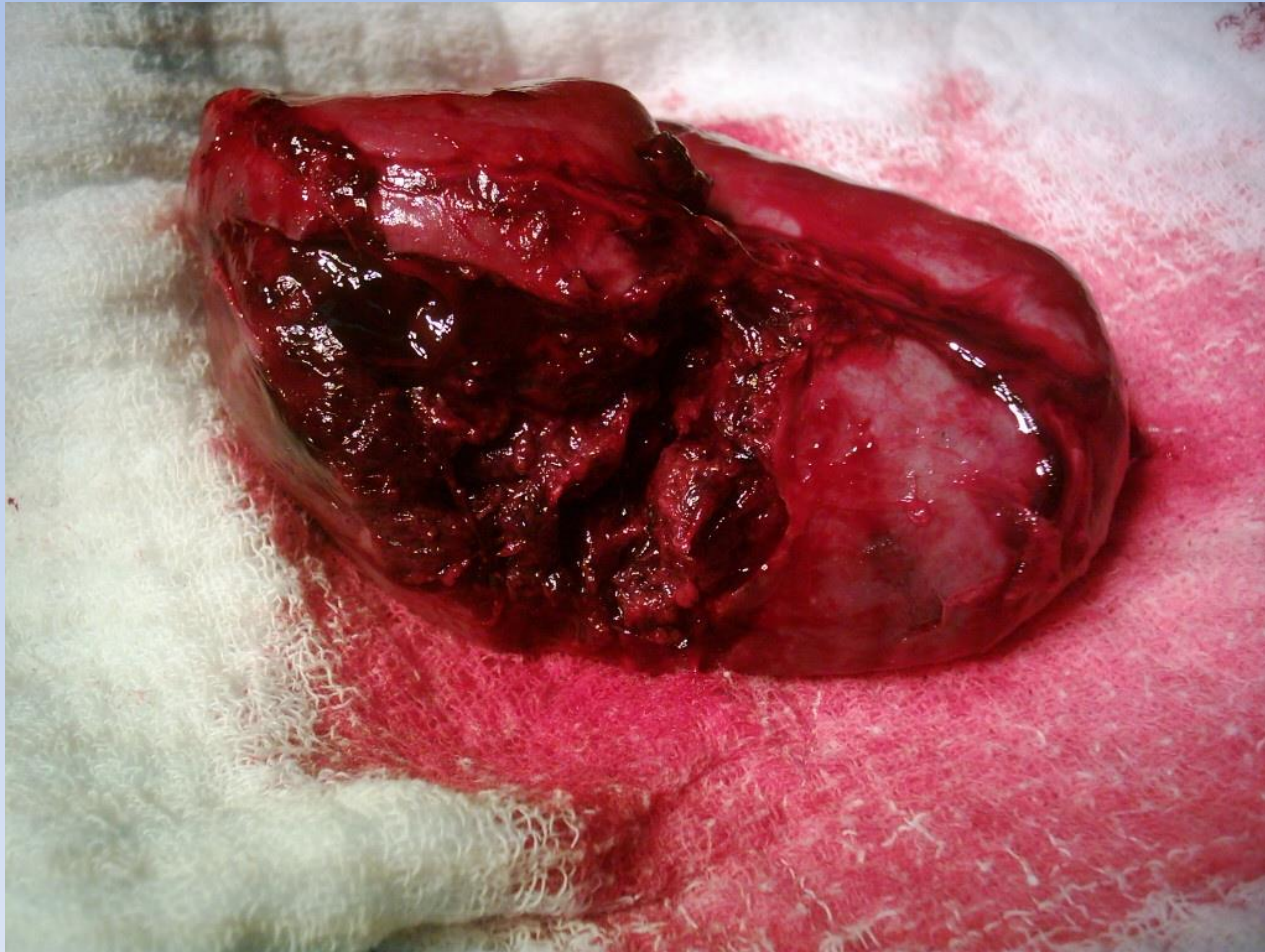
3. H. Influenza

Summary:





Grade 5 splenic injury



References:

1. Norman Williams, Christopher Bulstrode. Bailey & Love's Short Practice of Surgery. 25th edition 2010 ; Chapter 66. 1087-1096.
2. Siobhan Corbett, Robert S. Dorian . Schwarz's Principles of surgery . 10th Edition 2015 ; Chapter 34. 1423-1445.

THANK YOU