

LAPAROSCOPIC SPLENECTOMY



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INDICATIONS OF SPLENECTOMY

1. ELECTIVE SPLENECTOMY

* ITP :	57 %
* congenital spherocytosis :	12 %
* hemolytic anemia :	10 %
* Hodgkin's disease :	5 %
* AIDS-related thrombocytopenia :	3 %
* lymphoma :	3 %
* Leukemia	2.5 %
* Others (sarcomas, splenic metastases,...)	

2. SPLENECTOMY IN EMERGENCY:

- Trauma

INDICATIONS

Idiopathic Thrombocytopenic Purpura (ITP)

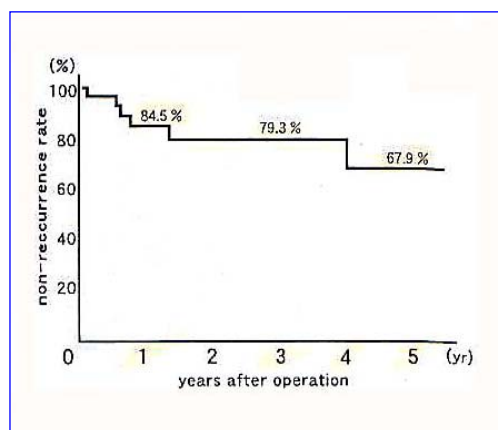
- Immune: antibodies to platelets membrane glycoprotein
 - Increased peripheral platelets destruction (spleen, liver)
- Bleeding
--> low risk if P.C. >50.000/High risk if P.C. <10.000

Adults: -chronic evolution > 90%
-spontaneous remission < 5%
-mortality from haemorrhage: 2% - 5%
-spontaneous haemorrhage if platelets count < 20.000/mm³

Children: - acute onset
-reversible in > 80 % at 2 months : late indication of splenectomy
-spontaneous remission or after medical treatment > 1 year
-rare chronic evolution < 10 %
-mortality from haemorrhage < 1 %

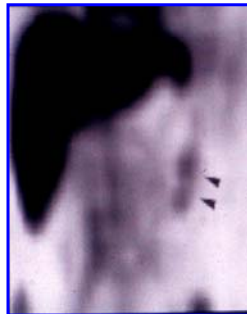
• **Splenectomy is indicated when medical treatment failed**

Clinical response (ITP) after laparoscopic splenectomy

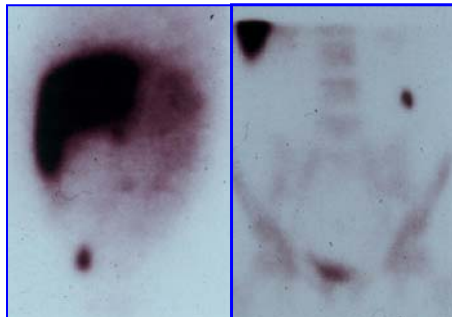


**84.5 % at 1 year
79.3 % at 3 years
67.9 % at 5 years**

ITP Relapse



Splenosis



Residual accessory spleen

Comparable detection in LS compared to OS *

Consensus statement, Surg Endosc 2008; 22: 821-848

DEBATABLE INDICATIONS of Laparoscopic splenectomy

- Malignant hematologic diseases
- Huge splenomegaly (> 25 cm)
- Malignant splenic tumor
 - . pericapsular inflammation
 - . large lymph nodes at the splenic hilum
- PHT and cirrhosis



Difficulties

- Technical challenge
- Splenic mobilization
- Safe access to the splenic hilum
- Increased risk of bleeding
- Extraction

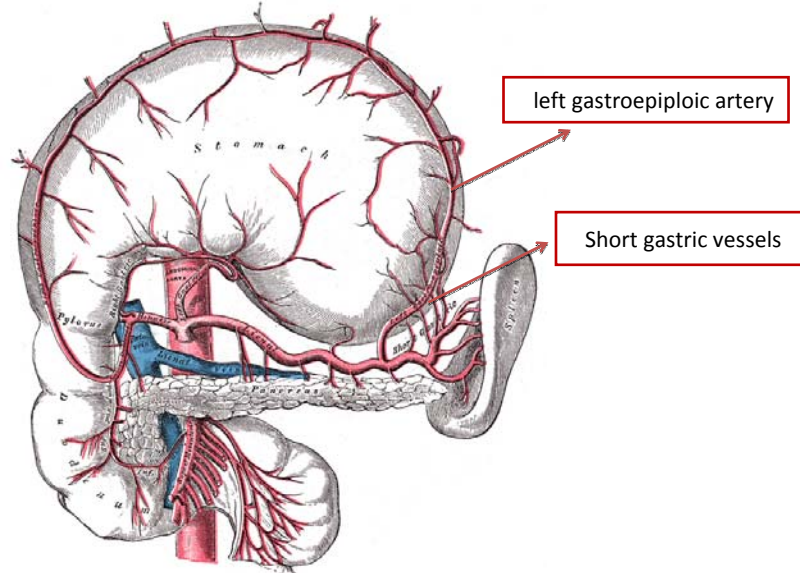
Splenic volume (gr)	Conversion rate
1000 - 2000	7 %
2000 - 3000	33 % *
> 3000	75 % *

P<0.05

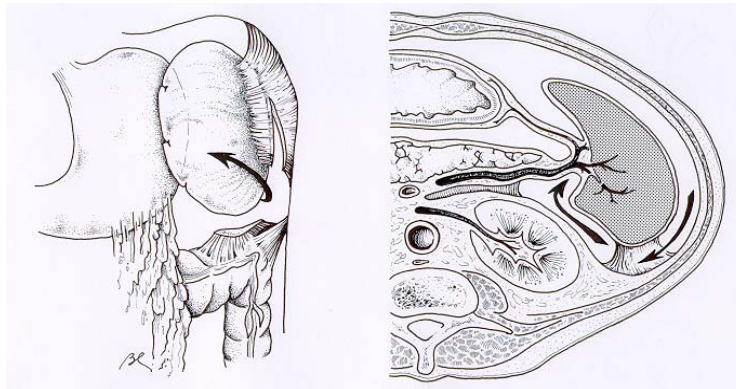
TARGARONA et al. 1998

Hand-assisted laparoscopic splenectomy port

Vessels of the spleen



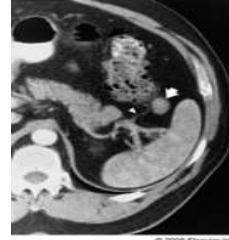
Attachment of the spleen



1. greater omentum
2. splenocolic ligament
3. pancreatosplenic ligament
4. gastrosplenic ligament
- 4'. short gastric vessels
5. phrenosplenic ligament

PREPARATION

- Spiral CT scan → aspect, size of the spleen, AS

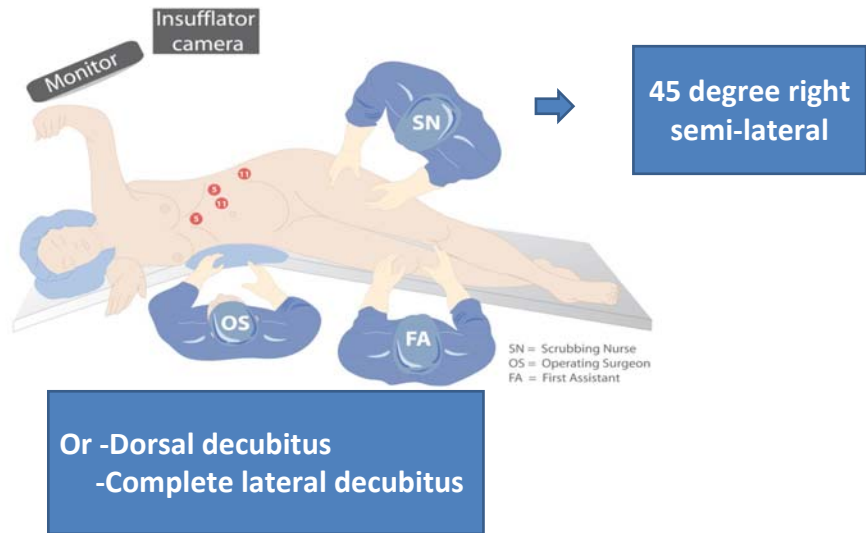


- Vaccination: -Pneumococcal
-Haemophilus Influenzae
- Meningococcal
- Platelets, packed cells
- Anticoagulant prophylaxis

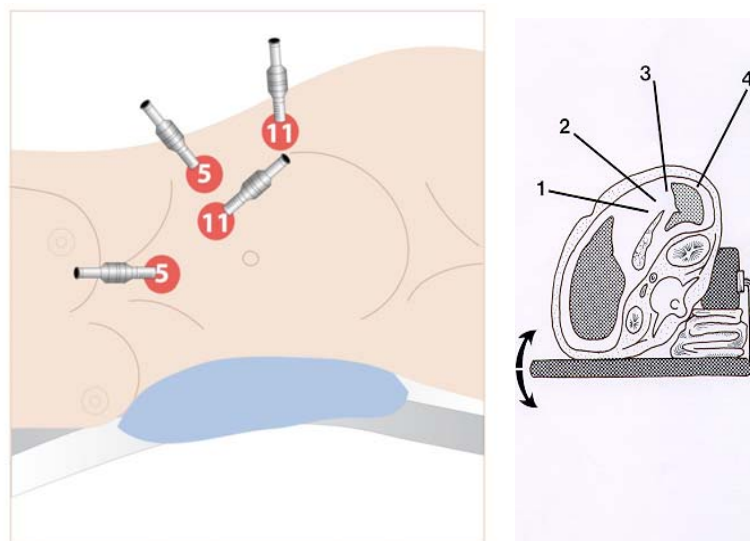
Conditions for a safe operation

1. Expert laparoscopic surgeon
2. Precise surgical technique
3. Careful vascular control (! bleeding)
4. "Stand-by" for conversion to laparotomy

PATIENT POSITION



PORTS PLACEMENT



OPERATIVE STEPS

1. lowering the splenocolic ligament
2. mobilizing and lifting up the lower pole of the spleen
3. division of the lateral peritoneal reflection of the spleen
4. dissection of the lower part of the gastrosplenic ligament
5. dissection of the splenic hilum
6. division of the upper part of the gastrosplenic ligament and the short gastric vessels
7. Extraction of the specimen in a bag! (in toto or morcellated)
8. Routine search for accessory spleen

MOVIE

CONVERSION

Conversion should always be considered as a possible option in order to make the procedure as safe as possible.

- * lack of surgeon's experience
- * intraoperative bleeding : hilar bleeding, diffuse blood oozing ...
- * dense adhesions
- * large splenomegaly
- * severe obesity
- * technical difficulties :
 - difficult mobilization of spleen
 - difficult manipulation of spleen
 - no work space

COMPLICATIONS

Local complications:

- Bleeding (2-6%)
- Venous thromboembolism : Splenic/ Portal thrombosis (5-20%)
- Pancreatic complications (pancreatitis, fistulas): 3%

General complications:

- pulmonary atelectasis:4%

Long term complications:

- Severe sepsis (encapsulated bacterias):0,2-0,5%

Mortality:0,6%

Peri-operative Results

Metaanalysis (n=2940) comparing OS (821) and LS (2119)

	Laparoscopic splenectomy	Open splenectomy	p
Operating time (min)	180	114	<0,001
POHS (D)	3,6	7.2	<0,001
Accesory spleen identified (%)	11	11	NS
Complication rate (%)	15.5	26.6	<0,001
Mortality rate (%)	0.6	1.1	NS

Lower morbidity: less wound infections, pulmonary complications, sepsis. More haemorrhagic complications in LS

Winslow et al., Surgery 2003

Some limitations remains regarding splenic traumas, portal hypertension and severe co-morbidities

Surg Endosc (2008) 22:821–848
DOI 10.1007/s00464-007-9735-5

CONSENSUS STATEMENT

Laparoscopic splenectomy: the clinical practice guidelines of the European Association for Endoscopic Surgery (EAES)

B. Habermalz · S. Sauerland · G. Decker · B. Delaitre · J.-F. Gigot ·
E. Leandros · K. Lechner · M. Rhodes · G. Silecchia · A. Szold ·
E. Targarona · P. Torelli · E. Neugebauer

MOVIE