

Case Report of Successful Total Splenectomy for a Splenic Injury in an Adult Patient

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Abstract: This paper describes a case report of emergency total splenectomy managed by laparotomy for a large lesion of the upper and middle pole of the spleen. When total splenectomy is performed, an increased risk of potentially lethal infections arises. Asplenia (absences of normal spleen function) and impaired splenic function are related to the increase of risk. Laparotomy is a surgical procedure to make large incision over the abdominal area. After splenectomy surgery its leads to recurrence of anaemia.

Keywords: Total splenectomy, laparotomy surgery, Splenectomy, post operative management

1. Introduction

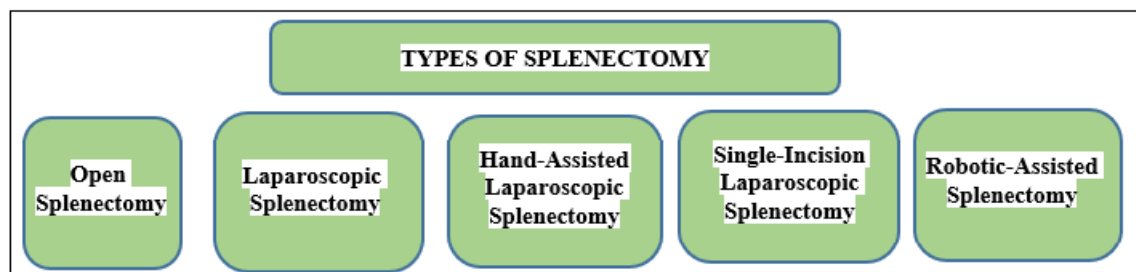
The spleen is an immune system organ in the upper left portion of abdomen. Its location means it is prone to injury after fall from height and accident. A severe spleen injury can be life threatening because you may experience significant blood loss

Splenectomy is a surgical procedure to removal of entire spleen

Spleen is a important organ involved in immune function, storage of blood cell, blood filtration,

Splenectomy is a complex medical procedure that should only be performed when deemed necessary by the healthcare team. The decision to undergo splenectomy is based on a thorough evaluation of the individual's condition, the potential benefits of the procedure, and consideration of alternative treatment options.⁽¹⁾

Types of Splenectomy



2. Presentation of Case

I am presenting a case of a 48-year-old male reported to the hospital in the emergency department with severe pain in the abdomen, vomiting, and giddiness. After the examination and investigation, the patient diagnosed a severe spleen injury due to a fall from a coconut tree (height approximately :15–17 meters). He is a coconut climber. He shared his history of how long doing this work (around 20 years), how he went to work and what happened at the time of work, how he reacted in a painful situation and also explained symptoms like internal pain, which all helped to shift to hospital for treatment. He underwent emergency successful total splenectomy with resolution of his symptoms thereafter.

3. Clinical manifestation

Pain in left upper quadrant of abdomen,
Left chest pain, left shoulder tip pain (referred from diaphragmatic irritation),
Vomiting
Hypo-tension

Diagnosis

History collection
Physical examination
X ray
Ultrasound scan
CT scan
Doppler study
MRI
CBC

4. Findings

On physical examination: Patient has severe pain and tenderness in the abdomen

On the X-ray Sentinel clot sign, the highest density blood localizes adjacent to the spleen.

Ultrasound: vascular injury or active intra-abdominal hemorrhage

5. Treatment

The treatment of splenic injuries is guided in large part by the patient's condition and the severity of injury.

Patients are closely monitored in the ICU with special attention paid to hemodynamics (heart rate and blood pressure) and hematocrit levels.

A splenectomy may be performed as part of an exploratory laparotomy for intra-abdominal hemorrhage. An exploratory laparotomy with a large mid-line incision also allows the surgeon to systematically identify and temporize or repair other concomitant intra-abdominal injuries.

6. Nursing Management

Preoperative Management

Obtaining history collection, medical history, including reason for splenectomy, previous medical condition, known case of allergic reaction to medicine

Assess the baseline data; temperature, pulse, respiration, blood pressure, level of pain,

Do a physical examination, abdominal palpation, paying attention to enlargement of organ, tenderness,

Perform a complete blood count, platelet count, white blood cells, focus on bleeding time and clotting time.

Psycho-social assessment

Assess the individuals emotional status, whether patient and family members understand the procedures

Identify the fear and give adequate psychological support to patient and family members

Provide education on the procedure

Informed consent and documentation

Verified that informed consent has been obtained from patient and relatives about procedure, risk factors, benefits

Do proper documentation with signature, date and time

Post Operative Management

- Closely monitor the vital signs
- Maintain the proper position
- Frequently assess the surgical site for any bleeding, swelling, redness, signs of infection, drainage,
- Apply sterile dressing
- Evaluate the blood count, regularly monitor the hematologic parameter such as white blood cell, platelet,
- Assess the nutritional status of patient
- Provide psychological support
- Frequently assess the general condition of the patient

- Administer the medication and IV fluid's as per the doctors order
- Monitor the intake and output

7. Conclusion

This case study was aimed to enhance their knowledge regarding causes, signs & symptoms and risk factors of splenectomy and also make them to gain knowledge about function of spleen, types of splenectomy, post operative management, and adequate sleep, diet modification, treatment regular checkup,

References

- [1] Leppäniemi A. Nonoperative management of solid abdominal organ injuries: From past to present. *Scand J Surg.* 2019 Jun;108(2):95-100. [PubMed]
- [2] Splenectomy (Spleen Removal): Complications, Recovery, and More Medically Reviewed by Minesh Khatri, MD on March 17, 2024 Written by Kelli Miller
- [3] Chung SK, Suah A, Patel D, Hafez NM, Williams B. Exploratory laparotomy and splenectomy for ruptured spleen following blunt force trauma. *J Med Insight.* 2023;2023(299.9). doi:10.24296/jomi/299.9.
- [4] Abduljalil M, Saunders J, Doherty D, Dicks M, Maher C, Mehigan B, Flavin R, Flynn CM. Evaluation of the risk factors for venous thromboembolism post splenectomy - A ten year retrospective cohort study in St James's hospital. *Ann Med Surg (Lond).* 2021 Jun; 66: 102381. [PMC free article] [PubMed]
- [5] Camejo L, Nandeesh N, Phan K, Chharath K, Tran T, Ciesla D, Velanovich V. Infectious outcomes after splenectomy for trauma, splenectomy for disease and splenectomy with distal pancreatectomy. *Langenbecks Arch Surg.* 2022 Jun;407(4):1685-1691. [PMC free article] [PubMed]
- [6] Mazzola M, Crippa J, Bertoglio CL, Andreani S, Morini L, Sfondrini S, Ferrari G. Postoperative risk of pancreatic fistula after distal pancreatectomy with or without spleen preservation. *Tumori.* 2021 Apr;107(2):160-165. [PubMed]
- [7] Nursing Care Plan For Splenectomy - Made For Medical Laparoscopic near-total splenectomy. Report of a case - PMC, Giuseppe Di Buono ^{a,*}, Elisa Splenectomy - StatPearls - NCBI Bookshelf Maienza ^a, Salvatore Buscemi ^a, Leonardo Gulotta ^b, Giorgio Romano ^a, Antonino Agrusa ^a PMID: PMC7876733 PMID: 33191191
- [8] Splenic Trauma - StatPearls - NCBI Bookshelf https://learning.facs.org/sites/default/files/scorm_engine/01_matls_module1_1-586792154/ATLS%20Student%2010th%20edition%20manual.pdf
- [9] Splenectomy NCLEX Review - Straight A Nursing