

Hernia with Cirrhosis

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Table of Contents

Epidemiology
Complications
Treatment

References

Epidemiology

Incidence ¹⁻³

- 20-40% of Patients with Decompensated Cirrhosis Have an Abdominal Wall Hernia
- Primarily Umbilical and Ventral Hernias
- Inguinal Hernias Have a Similar Prevalence to Non-Cirrhotic Patients

Contributing Factors ¹

- Increased Intraabdominal Pressure from Portal Hypertension and Ascites – Primary Factor
- Malnutrition
- Subsequent Muscle Wasting and Sarcopenia
- Recanalization of the Umbilical Vein

Complications

Risks of Surgery ^{1,2,4}

- High Overall Complication Rates
 - 10% if Elective
 - 40-50% in Emergent
- Wound Infection
- Hematoma or Seroma
- Dehiscence

- Uncontrolled Ascites Drainage Through the Surgical Site
- Peritonitis
- Hemorrhage
- Hepatic Encephalopathy
- Hepatorenal Syndrome
- High Recurrence Rate (70-75% if Ascites is Inadequately Controlled)

Risks of Expectant Management ^{1,2,4}

- Incarceration and Strangulation – Emergency Surgery Has a Significantly Higher Mortality
- Skin Necrosis
- Skin Perforation and Evisceration
- Peritonitis
- Ascites Drainage
- “Flood Syndrome”: Ruptured Umbilical Hernia with Large Volume Ascites Results in Ascites Leakage Through the Skin Lesion ⁵



Ruptured Umbilical Hernia with Eviscerated Omentum and Ascites Leakage ⁶

Treatment

Medical Management of Ascites

- Uncomplicated Hernias are Initially Managed by **Aggressive Medical Optimization** Followed by **Elective Repair** ^{1,7}
- Initial Treatments: ^{8,9}
 - Sodium Restriction
 - Diuresis
 - Paracentesis
 - Nutritional Optimization
- Options if Initial Treatments Fail: ^{1,10}
 - Intermittent Paracentesis
 - Transjugular Portosystemic Shunt (TIPS)
 - Temporary Peritoneal Dialysis (PD) Catheter – High Risk of Bacterial Peritonitis and Should Be Avoided
- If Repaired Urgently Prior to Medical Optimization, Consider Placement of an Intraperitoneal Drain to Control Ascites Postoperatively
- “Watchful Waiting” is Generally Not Recommended – Increased Risk of Incarceration and Emergency Surgery ¹¹⁻¹³

Timing for Elective Repair

- Exact Timing is Controversial ^{4,14}
- If Patient is a Liver Transplant Candidate, it is Preferred to Delay Hernia Repair and Do it During the Transplant Operation ¹
- Consider Elective Repair After Aggressive Medical Optimization with Control of Ascites

Indications for Emergent Repair ^{15,16}

- Incarceration or Strangulation
- Skin Rupture
- Skin Changes Suggesting Impending Rupture

Mesh Reinforcement

- Elective Setting: **Use Mesh** ^{17,18}
 - Overall Considered Simple, Safe, and Effective ¹⁹
 - Lower Recurrence Rate
 - Higher Infection Rate but Mesh Exposure and Removal is Not Significantly Increased ²⁰
- Urgent/Emergent Setting: Avoid Mesh Due to Increased Risk of Infection

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