

Paracentesis (gastroenterology)

Paracentesis, also known as **ascites puncture**, is a clinical procedure in which a needle is inserted into the peritoneal cavity and free fluid is obtained from the abdominal cavity. It is chosen in patients with large ascites. Paracentesis can be divided into diagnostic and therapeutic.

during **diagnostic** paracentesis, a sample of ascites is taken for examination. **therapeutic** paracentesis means draining more than 5 liters of fluid with the aim of reducing intra-abdominal pressure and relieving shortness of breath, abdominal pain and early satiety. Paracentesis is performed by a doctor with appropriate experience with the assistance of a nurse.

Indication

Paracentesis should always be performed at the **first manifestation of ascites**. Examination of ascitic fluid should be performed in every patient with pre-existing ascites **admitted to hospital**. Another indication is any **sudden worsening of the condition of a patient with ascites** (ever, abdominal pain, hepatic encephalopathy, leukocytosis, deterioration of renal function, etc.), which raises the suspicion of spontaneous bacterial peritonitis.

Contraindication

An absolute contraindication is only a sudden abdominal event requiring surgery. Among the **relative contraindications** are especially disorders of blood coagulation (disseminated intravascular coagulation, significantly prolonged prothrombin time, severe thrombocytopenia). Other relative contraindications include pregnancy, bladder distension, bowel loop distension, and abdominal wall cellulitis

Patient preparation

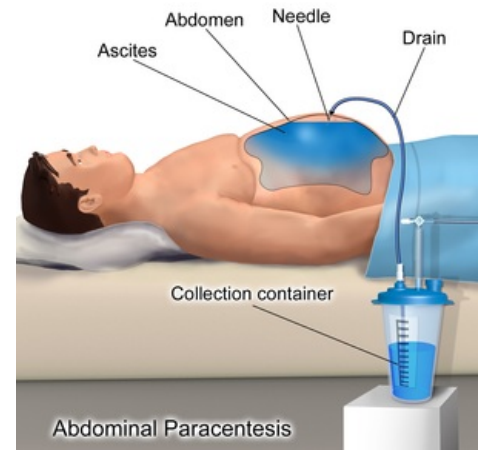
The procedure is explained to the patient and informed consent is obtained. The patient does not need to be fasting. The procedure is performed lying on the bed with the patient in a horizontal position or with the head slightly raised.

Method

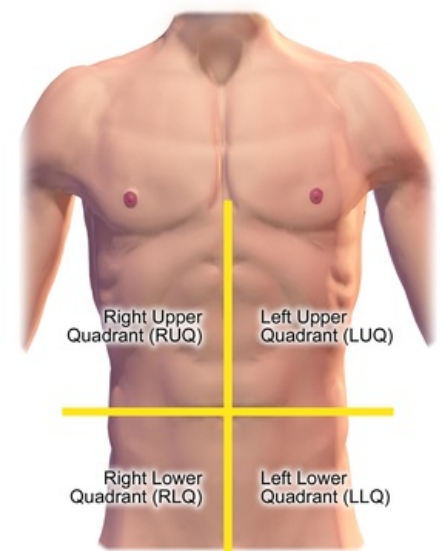
Targeting the injection site: Paracentesis is most often performed in the lower left quadrant of the abdomen. When choosing an injection site, we should avoid places near scars, because in this area there is an increased risk of injury to the intestine adhering to the scar. In most workplaces, the location of the injection site is performed using ultrasound. Focusing with ultrasound is particularly suitable in the case of diagnostic puncture for small ascites. In tension ascites, ultrasound focus is sometimes not needed. We put on sterile gloves and thoroughly disinfect the targeted area.

Local anesthesia: We penetrate the peritoneal cavity with a needle attached to a syringe with 1% Mesocaine. When penetrating the abdominal wall, we apply an anesthetic. At the same time, we aspirate intermittently before aspirating the ascites. After reaching the peritoneal cavity, we change the needle and syringe and collect the ascites into the syringe for further examination. During a diagnostic puncture, the needle is withdrawn and the injection site is treated with a sterile cover.

in the case of **of therapeutic** puncture, we connect the needle to the connecting tube after taking the sample for examination. Place this in the ascites container below the patient's level (on the floor next to the bed) or connect it to a collection bag. We fix the patch needle to the abdominal wall. After draining the desired amount of ascites, we pull out the needle and treat the injection site with a sterile cover.



Blausen 0004 AbdominalParacentesis



Abdominopelvic Quadrants

Blausen 0005 AbdominopelvicQuadrants

Large volume paracentesis

Large-volume paracentesis is defined as draining more than 5 liters of ascites. With tension ascites, 8-10 liters of ascites can be drained. The release of large amounts of ascites can cause hypovolemia, impaired renal perfusion and, in more severe cases, shock. As part of the prevention of subsequent hypovolemia, after large-volume

paracentesis , albumin is administered intravenously at a dose of 6–8 g/liter of drained ascites.

Complication

The risk of complications is very low. Complications include:

- spontaneous leakage of ascites at the puncture site;
- bleeding
- intestinal perforation and infection.

Links

Related articles

- Ascites
- Liver cirrhosis

External links

- also available at: Paracentéza - článek na wikipedii (<https://en.wikipedia.org/wiki/Paracentesis>)

References

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- EASL,. EASL clinical practice guidelines on the management of ascites, spontaneous bacterial peritonitis, and hepatorenal syndrome in cirrhosis. *Journal of Hepatology* [online]. 2010, vol. 53, p. 397-417, Available from <[https://www.journal-of-hepatology.eu/article/S0168-8278\(10\)00478-2/fulltext#%20](https://www.journal-of-hepatology.eu/article/S0168-8278(10)00478-2/fulltext#%20)>.