

Title:

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Ultrasound-guided botulinum toxin for the treatment of chronic anal fissure: technical notes

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Dear Editor,

We are thrilled to present a new technique for treating chronic anal fissures using ultrasound-guided botulinum toxin injections. Our approach involves injecting botulinum toxin into the internal anal sphincter (IAS) guided by ultrasound for maximum effectiveness(1). We believe that our technique has significant potential to improve outcomes. We could not find any studies where ultrasound-guided TB puncture was used to treat chronic anal fissures.

TECHNIQUE

We use 50 UI Onabotulinumtoxin A (Botox®, Allergan, AbbVie Spain) in 0.5ml saline solution. A 50mm 22G probe needle (Echoplex+®, Vygon) is used for the puncture. We bend the probe needle about 30° at 2cm from its tip (*Figure 1a*). This will allow us to easily push the syringe plunger once the needle is in the internal anal sphincter (IAS), and it will also ensure we do not introduce the needle further than 2cm.

The patient is placed in the lithotomy position. We introduce the ultrasound (B&K® model Flex Focus 300 with 360° endoanal probe BK2052) into the anus. We locate the beginning of the IAS in the middle anal canal and assess whether it is intact. If it is entire, we perform the first

puncture at 9 (clock position) in the anal edge very close to the mucocutaneous junction and, therefore, very close to the ultrasound transducer. The needle should proceed in a cranial direction parallel to the anal canal. We can use the ultrasound probe as a reference (*Figure 1b*). We locate the needle sonographically: we must consider that the endoanal ultrasound provides an axial vision of the anal canal, displaying a segmentary view of the needle. The segment of the needle is identified as a linear hyperechoic image (*Figure 1c*). We confirm that the needle is located in the IAS. To locate the tip of the needle we must, at this point, introduce the ultrasound until the image disappears. We then remove the ultrasound until we visualise the needle again, confirming we have situated the tip of the needle. We remove or introduce the needle so that it settles in the lower third of the IAS. We inject 0.25ml of the solution. The exact process is repeated at 3 (clock position). Suppose the patient has a record of previous internal lateral sphincterotomy. In that case, we perform the puncture on one of the two ends of the IAS of the operated side, guided by ultrasound (*Figure 1d*).

BIBLIOGRAPHY

- (1) Whitcup SM, Hallett M (2021) Botulinum toxin therapy. Springer, Switzerland.
<https://doi.org/10.1007/978-3-030-66306-3>

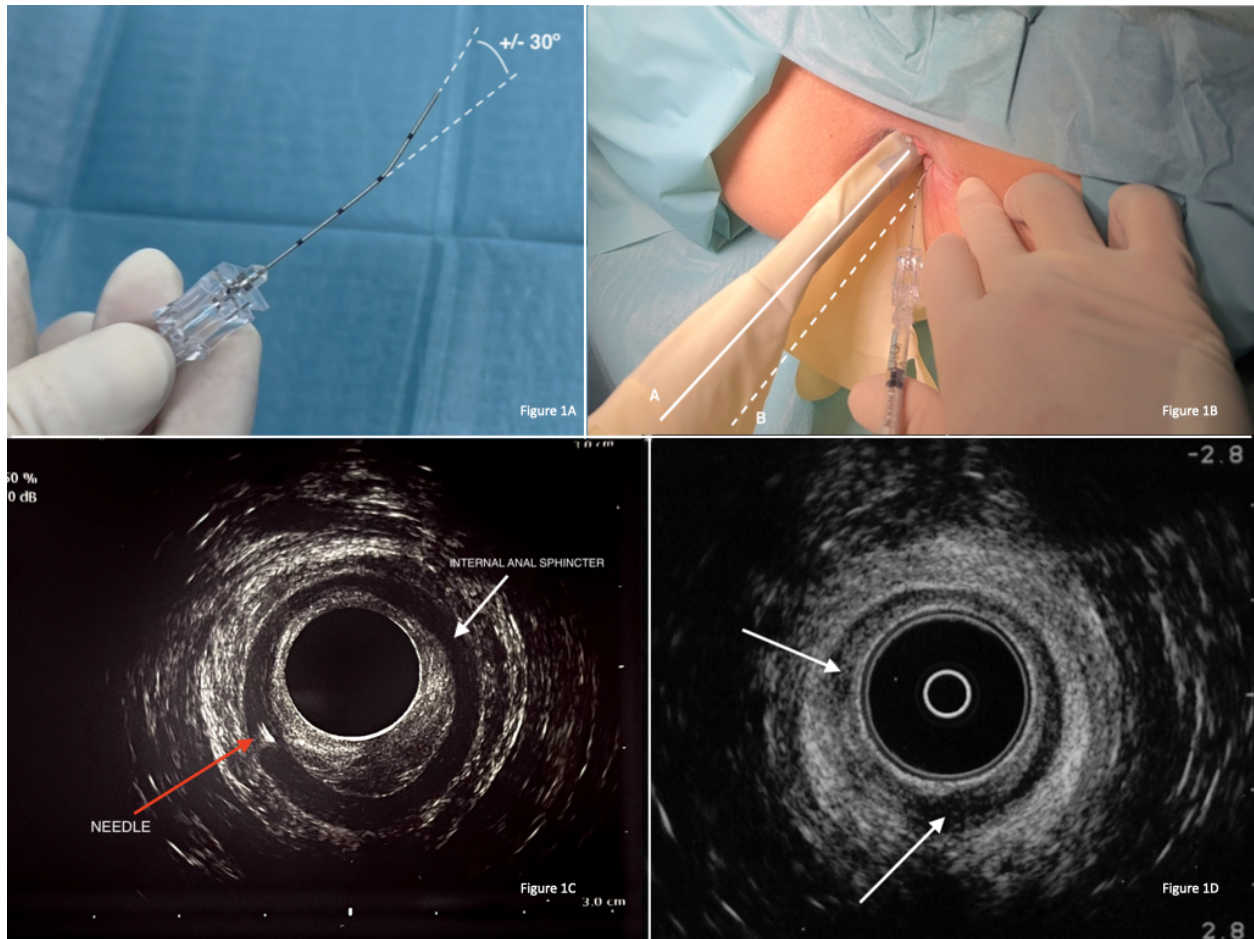


Figure 1A: To facilitate the puncture, we must bend the first two centimetres of the needle at 30°. Figure 1B: We use the ultrasound direction (line A) as a reference to obtain a parallel puncture to the anal canal (line B). Figure 1C: The needle is visualized sonographically as a hyperechoic image (red arrow). Figure 1D: In patients with previous LIS, the puncture should be performed in one of the two ends of the IAS (arrows).