

# Is neuromodulation with botulinum toxin type A an alternative treatment for chronic anal fissure?

<b>Submission date</b> 14/02/2024	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 16/02/2024	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 02/10/2024	<b>Condition category</b> Digestive System	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

An anal fissure (AF) is a tear in the skin of the anal canal and is the most common cause of pain during defecation. Whereas acute AF is usually superficial and tends to spontaneously resolve, chronic AF lasts for more than 6 weeks and is characterized by exposed internal anal sphincter (IAS) muscle, anal papilla and a skin tag or pile. Botulinum toxin type A (BT) local injection is considered when topical treatment fails. BT reduces anal sphincter tone at rest and reduces pain. The effects begin 3 to 4 days after injection and fade gradually during the third or fourth month. Therefore, the main aim of this study was to evaluate the healing rate of AF with incobotulinumtoxinA (incoBoNT/A) at 2 years.

### Who can participate?

Patients older than 18 years with a clinical AF diagnosis for over 2 months who had not responded to previous treatments of dietary and behavioral changes, painkillers, and local treatment with diltiazem or trinitrate glyceryl

### What does the study involve?

Patients were treated with local incoBoNT/A injection with a follow-up of 24 months. Healing and improvement rates, pain perception, incontinence, quality of life and safety were assessed.

### What are the possible benefits and risks of participating?

The possible benefits are healing, clinical improvement and pain reduction. The risks are the possible adverse effects associated with the use of botulinum toxin, such as constipation with increased pain after bowel movements, hyperemia (increased blood flow), inflammatory polyps (growths), subfissural fistulas (abnormal opening in the skin near the anus), thrombosis (blood clots) and haematoma (collection of blood).

### Where is the study run from?

Nuestra Señora del Prado Hospital (Spain)

When is the study starting and how long is it expected to run for?  
February 2017 to June 2023

Who is funding the study?  
The data analysis and medical writing were supported by unrestricted funding from Merz Pharmaceuticals GmbH (Germany)

Who is the main contact?  
Dra. A. Teresa Calderón Duque, ttcd01@gmail.com

## Contact information

**Type(s)**  
Public, Scientific, Principal investigator

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## Additional identifiers

**Clinical Trials Information System (CTIS)**  
2017-001216-11

**ClinicalTrials.gov (NCT)**  
Nil known

**Protocol serial number**  
FISAN-BOT-2017-01

## Study information

**Scientific Title**  
Utility of botulinum toxin type A in the treatment of chronic anal fissure

**Study objectives**  
To assess the cure rate of chronic anal fissure with botulinum toxin at 2-year follow-up.

**Ethics approval required**

Ethics approval required

### **Ethics approval(s)**

approved 21/04/2017, Clinical Research Ethics Committee of the Talavera de la Reina Integrated Health Area (Hospital Nuestra Señora del Prado. Ctra. Nacional V, km 114, Talavera de la Reina, Toledo, 45600, Spain; +34 (0)925803600 (Ext: 86 316); varroyo@sescam.org), ref: 11/2017

### **Study design**

Prospective open-label single-arm single-center study

### **Primary study design**

Observational

### **Study type(s)**

Treatment

### **Health condition(s) or problem(s) studied**

Chronic anal fissure

### **Interventions**

Patients were treated with local incoBoNT/A injection to heal anal fissure with a follow-up of 24 months at the Hospital Nuestra Señora del Prado (Talavera de la Reina, Spain)

A vial of 50 U of BT free from complexing proteins (IncoBoNT/A; Xeomin®, Merz Pharmaceuticals GmbH) was diluted in 1.25 ml normal saline, and three syringes were filled with 0.4 ml each (16 U). Patients were placed in the lithotomy position and pretreated with topical local anesthesia (prilocaine/lidocaine cream 25 mg/g each). A total of 48 U incoBoNT/A was injected per patient at three sites (16 U each): both laterals and the posterior intersphincteric groove. After injection, patients were discharged after verifying that there were no complications.

### **Intervention Type**

Procedure/Surgery

### **Primary outcome(s)**

Healing rate at 2 years. Healing was defined as scarred AF and without symptoms; improvement was considered when the fissure persisted without symptoms; failure presented persistent fissure and symptoms. Patients who required a surgical approach were considered as a failure. Healing/improvement was assessed at 1 week, 1 month, 3 months, 6 months, 1 year, and 2 years post-injection.

### **Key secondary outcome(s)**

1. Anal manometry assessment of the internal anal sphincter (IAS) to measure anal resting pressure, voluntary squeeze pressure and pressure during the Valsalva maneuver. IAS pressures were measured using the THD® Anopress system (mmHg) at baseline and at 1 and 3 months post-injection.
2. Pain perception was measured using a pain visual analog scale (VAS) (scoring between 0 [no pain] and 10 [severe pain]) at baseline, 1 month, 3 months, 6 months, 1 year, and 2 years post-injection. Pain perception was also measured at 1 week.
3. Incontinence was measured using the Wexner score (scoring between 0 [no incontinence] and 20 [total incontinence]) at baseline, 1 month, 3 months, 6 months, 1 year, and 2 years post-

injection

4. Quality of life was assessed with the SF-36 questionnaire (scoring between 0 [worst health status] and 100 [best health status]) at baseline and 3 months post-injection

**Completion date**

01/06/2023

## Eligibility

**Key inclusion criteria**

1. Aged over 18 years
2. Clinical anal fissure diagnosis for over 2 months that had not responded to previous treatments consisting of dietary and behavioral modifications, analgesics, and local treatment with calcium channel blocker (diltiazem 2%) or nitrates (trinitrate glyceryl 0.4%)

**Participant type(s)**

Patient

**Healthy volunteers allowed**

No

**Age group**

Adult

**Lower age limit**

18 years

**Sex**

All

**Total final enrolment**

49

**Key exclusion criteria**

1. Non-idiopathic anal fissures
2. Previously untreated patients
3. BT contraindication such as miastenia gravis, Eaton-Lambert syndrome, pregnancy, and acetylcholine deficiency

**Date of first enrolment**

28/09/2017

**Date of final enrolment**

07/03/2022

## Locations

**Countries of recruitment**

Spain

**Study participating centre**  
**Hospital Nuestra Señora del Prado**  
Ctra. Nacional V, km 114  
Talavera de la Reina, Toledo  
Spain  
45600

## Sponsor information

**Organisation**  
Hospital General Nuestra Señora del Prado

**ROR**  
<https://ror.org/00k5pj069>

## Funder(s)

**Funder type**  
Other

**Funder Name**  
Investigator initiated and funded

**Funder Name**  
Merz Pharmaceuticals GmbH

## Results and Publications

### Individual participant data (IPD) sharing plan

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request (Teresa Calderón Duque, [ttcd01@gmail.com](mailto:ttcd01@gmail.com)).  
The type of data that will be shared: All the individual participant data collected during the trial, after deidentification.

Dates of availability: Immediately after publication.

Whether consent from participants was required and obtained: All study participants provided informed consent.

Comments on data anonymization: Information concerning the identity of patients will be kept confidential for all purposes. The identity of the patients will not be disclosed or divulged.

Patient data collected in the investigator's brochure during the study should be documented in

an anonymous and dissociated manner, linked to a code (case number) so that only the investigator can associate such data with an identified or identifiable clinical history. In the data collection forms, patients will be identified by a numerical code. The database generated by the study will not contain any identification of the patient, other than the numerical code by which it will not be possible to reveal the patient's identity.

### IPD sharing plan summary

Available on request

### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>		30/09/2024	02/10/2024	Yes	No