Results of botox treatment in anal fissures (Our experience); Central Customs Hospital

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Introduction
Anal fissures appear clinically as a rip in the anal canal distal to the dentate line, causing agonizing discomfort during defecation. Acute and chronic anal fissures are the two types of anal fissures. Acute anal fissures usually heal fully within 5–6 weeks. Conservative treatment, on the other hand, loses value and becomes ineffectual as the anal fissure progresses to the chronic stage. Botulinum toxin injections are now commonly used to treat anal fissures in recent years.
Patients and procedures
24 patients with anal fissure were studied retrospectively at Azerbaijan's Central Customs Hospital. The patients were divided into 15 females and 9 males. For the toxin preparation and injection operation, we employed 100 units of Botox Tip A. from Allergan in the United States. The purpose of the trial was to see how well botulinum injections worked for treating anal fissures.
The average age of the 24 patients was 46.92.5. There were two ladies and nine males among the 24 patients who were initially eligible for the trial. According to the location of the anal fissure, it was discovered that in men, the anal fissure is primarily positioned on the back wall of the anal canal, whereas in women, it is placed on the anterior wall and both walls. After botox, all patients experienced complete clinical improvement.
Conclusion
Botulin injection is a feasible surgical option for treating anal fissures and is considered a successful surgery.

Keywords:
anal fissure, bleeding, botox injection, pain

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Introduction

An anal fissure is a frequent condition that causes significant discomfort, lost workdays, and a decreased quality of life [1,2]. Anal fissures manifest clinically as a tear that develops in the anal canal distal to the dentate line and can result in excruciating pain and bleeding during defecation. Although this illness affects people of various ages, young individuals tend to have it the most [2,3]. 90% of anal fissure cases occur in the posterior wall of the anal canal, with the anterior wall accounting for 10% of cases. Less than 1% of anal fissures may develop in an anal canal's lateral walls, and 1% or fewer patients may have anal fissures on both walls [4]. The main symptoms of anal fissures include severe pain during defecation and bleeding per anus. Anal fissures present as acute and chronic anal fissures.

Acute anal fissures can be treated with stool softener, fiber-rich foods, plenty of fluids, and sitz baths, local ointments with calcium channel blockers, topical nitrates [5]. Usually, acute anal fissures completely heal/within 5-6 weeks. However, if the anal fissure goes to the chronic stage, conservative treatment loses its importance and becomes ineffective. Not treated anal fissures can reduce the quality of life. Chronic anal fissure does not usually respond to conservative treatment. Main factors anal fissures is internal sphincter spasm. Surgery for anal fissures typically aims to lessen anal sphincter spasms [5,6]. The lateral internal sphincterotomy is the surgical method used the most frequently to treat chronic anal fissures. According to the literature, this treatment has healing rates of between 90 and 93% [7]. But it might result in incontinence for life. In order to prevent incontinence, we occasionally leave the sphincter ring intact. However, anal fissures are now frequently treated with Botulinum toxin injections in recent years [8]. The study's goal was to find out how well botulinum injections worked to treat anal fissures.

Method

This retrospective investigation was conducted at a single facility at the Central Customs Hospital in Azerbaijan. The hospital's bioethics committee gave their approval to our investigation. A total of 24 patients with recurrent anal fissures and the clinical symptoms of excruciating pain both during and after urination, bleeding, constipation, anismus, obstructed defecation syndrome and anal sphincter hypertonia were enrolled in the trial. These patients had also undergone unsuccessful conservative therapies. Two patients who had undergone LIS one year before, but did not achieve healing and sphincter hypertonia were also included in this study group. Gender differences of the patients: 15 females and 9 males. All patients in the study underwent colonoscopies. Patients with chronic inflammatory bowel disease, perianal cancer, tuberculosis, atypical fissures, fistulas associated with abscess, also grade III/IV hemorrhoids, pregnancy, and breast-feeding females were excluded from the study.

We used 100 units of Botox Tip A from Allergan in the United States for the toxin preparation and injection procedure. When used, 2 ml of regular saline was added to 2 ml of type A botulinum toxin that had been stored at a temperature of −20 °C. The patients were given intravenous anesthesia and injections of Allergan Type A Botox following the proper preparation. The patient was placed on his left side and the internal anal sphincter was physically located before the toxin was injected. In each point's intersphincteric space, 25TV of botulinum toxin was injected. The injections were made in four clockwise directions at 3, 6, 9, and 12. On the same day as the treatment, all patients received their discharge instructions, pain medication, and advice on how to prevent constipation.

Results

24 patients (100%), average age limit 46.9±2.5 . Out of the 24 patients initially eligible for the study, two were 15(62.5%) females and 9 (37.5%) males, the mean age in males was 45.4±4.3, and the mean age in females was 47.8±3.1(confidence interval 95%), $P=0.655$. Patients were classified according to age group in this way. 7 patients under 40 years old (29.2%), 13 patients between 40–59 years old (54.2%), 4 patients over 60 years old (16.7%). According to the age group, we can say that anal fissure is more common in the 40–59 age group (Table 1).

Male and female patients were distributed according to age group in this way. 3 (33.3%) of 7 patients under the age of 40 are men, and 4 (26.7%) are female . 6 out of 13 patients aged 40–59 (66.7%), 7 (46.7%) are female, all 4 patients over 60 (26.7%) are female.

According to the localization of the anal fissure, patients were classified into 3 groups. 8 patients on the anterior wall (33.3%), 12 patients on the posterior wall (50.0%), 4 patients on both walls (16.7%). (Table 2).

Eight (53.3%) of the fissures found on the front side of the anal canal belonged to female patients due to obstructed defecation syndrome when the location of the fissur was categorized by gender. A fissur on the posterior wall was present in 9 (100%) of the male patients with anismus and 3 (20.0%) of the female patients. Only four (26.7%) of the female patients had an anal on both walls. (11.1%) of the patients presenting with complaints of discomfort are male and 7 (46.7%) are female patients. 4 (44.4%) of those who applied with pain were men, and 6 (40.0%) were female. Out of the patients who

Table 1 Age group

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
< 40 age	7	29,2	29,2	29,2
40–59 age	13	54,2	54,2	83,3
≥60 age	4	16,7	16,7	100,0
Total	24	100,0	100,0	

Table 2 Anal fissurs localization

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
Anterior wall	8	33,3	33,3	33,3
Posterior wall	12	50,0	50,0	83,3
Both wall	4	16,7	16,7	100,0
Total	24	100,0	100,0	

applied for Botox injection, 3 (33.3%) of those who applied with incontinence were men, and 2 (13.3%) were female, and those who applied with complaints of spasms were only male patients.

In evaluating the statistical evaluation between the age group of patients with anal fissure and their gender differentiation according to the Pearson Chi-Square quality test, it was found that there is no statistical relationship between age groups and gender differentiation ($\chi 2=2.901$; $P=0.234$).

The Pearson Chi-Square qualitative test of statistical evaluation between the complaints of patients applying for Botox injection and their gender differentiation revealed that there is no statistical relationship between patient complaints and gender differentiation ($\chi 2=4.907$; $P=0.179$).

(Table 3).

However, according to the localization of the fissur, it was found that the anal fissur is located mainly on the back wall anal canal in men, and it is located on the anterior wall and both walls in women. In the evaluation of the obtained results according to the Pearson Chi-Square qualitative test, it was found that there is a statistically direct relationship between the localization of the crack and gender differentiation, and a statistically significant correct difference is determined ($\chi 2=4.907$; $P=0.001$).

8(33.3%) of the patients who applied for anal fissure had discomfort, 10(41.7%) complained of pain, 5 (20.8%) had bleeding, and 1(4.2%) had spasm complaints. In the first week after Botox injection, 5 patients (20.8%) felt normal, 3 out of 8 patients (12.5%) had discomfort, and other complaints did not improve, and after two weeks, 22 patients (91.7%) were clinically completely normal., one patient (4.2%) had pain symptoms, and one patient (4.2%) had spasm symptoms. (Fig. 1).

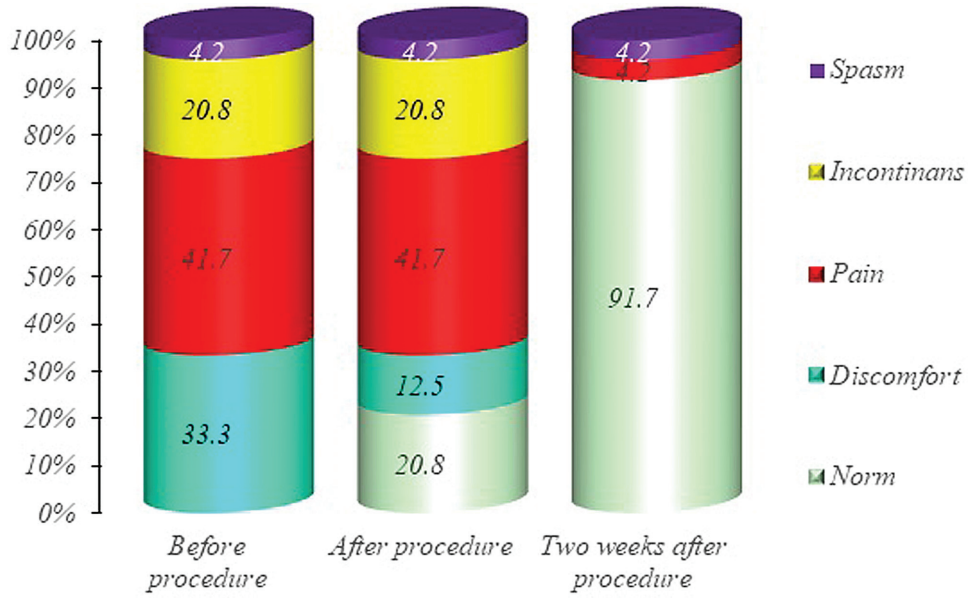
During the first week after receiving Botox injections, 19 individuals showed no clinical changes, and 5 showed relative improvement. The Wilcoxon test indicates that the results are statistically valid ($P=0.025$). However, after two weeks, 22 out of 24 symptoms showed complete improvement, and the result was not satisfactory in only two patients. According to the Wilcoxon test, the results are statistically significant and correct ($P\leq 0.001$).

Nine male patients with anal fissures underwent the operation, however during the first week there was no change seen ($P=1.000$); nevertheless, after two weeks, eight patients showed complete clinical improvement and one patient showed no change at all. The Wilcoxon test ($P=0.010$) indicates that the outcomes are significant and accurate. Relative improvement was observed in the first week of the procedure in 5 of the referring female patients, and no clinical improvement was observed in 10 ($P=0.025$). Two weeks after the procedure, 14 patients had relative improvement and 1 patient had no change. The obtained results are significant and honest according to the Wilcoxon test ($P=0.001$). Clinical improvement was noted in 1 out of 7 patients under the age of 40, and no clinical improvement was noted in 6 patients, making it clear that the effectiveness of the findings depends on the

Table 3 Correlation between age group and fissur localization

	Gender				
	Male		female		
	Count	Column N %	Count	Column N %	Chi-square Sig.
Age group					
< 40 age	3	33,3%	4	26,7%	
40–59 age	6	66,7%	7	46,7%	$\chi 2=2,901$ $P=0,234$
≥60 age	0	0,0%	4	26,7%	
Fissur localization					
Anterior wall	0	0,0%	8	53,3%	
Posterior wall	9	100,0%	3	20,0%	$\chi 2=14,400$ $P=0,001$
Both wall	0	0,0%	4	26,7%	
Before prosedure					
Normal	0	0,0%	0	0,0%	
Dsicomfort	1	11,1%	7	46,7%	
Pain	4	44,4%	6	40,0%	$\chi 2=4,907$ $P=0,179$
Bleeding	3	33,3%	2	13,3%	
Spasm	1	11,1%	0	0,0%	

Figure 1



Clinical signs before and after botox injection.

age group (P=0.317). However, six patients demonstrated clinical improvement after two weeks, whereas one patient showed no clinical change. The outcomes are both accurate statistically and significant (P=0.026).

When looking at patients between the ages of 40 and 59, it was observed that only 3 patients showed improvement in the first week, 10 patients had no clinical change (P=0.083), and all patients had fully improved clinical conditions after two weeks. The Wilcoxon test indicates that the outcomes are statistically significant (P=0.001). Only one (P=0.109) among patients older than 60 showed no clinical effect.

Clinical results were compared according to the localization of the anal fissures. It was found that the anterior wall fissures showed complete clinical improvement after two weeks (P=0.010). In posterior wall fissures, 10 out of 12 patients showed complete clinical improvement after two weeks, only two patients had no clinical change (P=0.005), and in both wall fissures, complete clinical improvement was observed in all patients (P=0.066)

Discussion

In the article, we attempted to demonstrate the efficacy of Botox injection as an alternative to surgery in anal fissures. We attempted to demonstrate if the 24 patients in the research group differed in terms of age, gender, and anal fissure localization in terms of Botox injection effectiveness, fissure localization, and gender differentiation. According to the Pearson Chi-Square quality test, no age groups or gender differentiation were found in the statistical evaluation of patients with anal fissures (P=0.234). We discovered that the anal fissur is primarily positioned on the back wall of the anal canal in men, whereas it is located on the anterior wall and both walls in women. And there is a statistically direct association between crack localisation and gender distinction, with a statistically significant accurate difference (P=0.001). In the first week following Botox injections, 19 patients showed no clinical changes, whereas 5 individuals showed relative improvement. The Wilcoxon test reveals that the results are statistically valid (P=0.025), however after two weeks, 22 of 24 symptoms exhibited complete improvement, with only two patients receiving an unsatisfactory result. The Wilcoxon test indicates that the results are statistically significant and correct (p0.001). Clinical outcomes were compared based on the location of the anal fissures. After two weeks, the anterior wall fissures exhibited complete clinical recovery (P=0.010). After two weeks, 10 out of 12 patients exhibited total clinical improvement in posterior wall fissures, while two patients had no clinical change (P=0.005), and complete clinical improvement was found in all patients in both wall fissures (P=0.066).

Conclusion

In conclusion, we can say that anal fissures can be found in all age groups. According to our results, anal fissures are located on the anterior wall, posterior wall, and both walls, but in the results, anal fissures are located on the anterior wall and both walls were found only in female patients ($\chi 2=14.400$, $P=0.001$). According to our statistical results, we can say that anal fissures located on the anterior wall and both walls are more common in female patients. After receiving a botox injection, patients who had complained of anal fissures saw a considerable reduction in their symptoms. Improvement was seen in 91.7% of cases. Ultimately, we can claim that Botulinum injection is a viable surgical alternative for treating anal fissures and is regarded as a successful procedure. The right patient selection and the right procedure approach are both necessary for the treatment to be effective [9].

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Conflicts of interest

There are no conflicts of interest.

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