

## TREATMENT OF PERIANAL FISTULAS IN POLAND

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A perianal fistula is a pathological canal covered by granulation tissue connecting the anal canal and perianal area epidermis. The above-mentioned problem is the reason for the patient to visit the surgeon-proctologist. Unfortunately, the disease is characterized by a high recurrence rate, even despite proper management.

**The aim of the study** was to determine the current condition of perianal fistula treatment methods in everyday surgical practice, considering members of the Society of Polish Surgeons.

**Material and methods.** 1523 members of the Society of Polish Surgeons received an anonymous questionnaire comprising 15 questions regarding perianal fistula treatment in everyday practice.

**Results.** Results were obtained from 807 (53%) members. After receiving answers, questionnaire results were collected, analysed, and presented in a descriptive form.

**Conclusions.** Study results showed that most Polish surgeons choose the fistulectomy/fistulotomy method. Considering treatment of perianal fistulas the most important issue is to find the correct, primary fistula canal. Further methods should be individually selected for each patient. One should also remember that every fistula is different. Surgical departments that operate a small number of perianal fistulas should direct such patients to reference centers.

**Key words:** perianal fistula, fistulotomy, Hipokrates's method, preference of the surgeon

A perianal fistula is a pathological canal covered by granulation tissue connecting the anal canal and perianal area epidermis. Most often the origin of the fistula may be associated with purulent processes ongoing within the glandular crypts localized at the level of the serrated line. The perianal fistula is considered as a chronic, descending phase of a perianal abscess. In half of the cases the fistula canal may be traced during abscess drainage. The perianal fistula is a frequent reason why the patient visits a surgeon-proctologist. Unfortunately, the disease is characterized by a high recurrence rate, even despite proper management.

The aim of the study was to determine the current condition of perianal fistula treatment methods in everyday surgical practice, considering members of the Society of Polish Surgeons.

### MATERIAL AND METHODS

1523 members of the Society of Polish Surgeons received an anonymous questionnaire comprising 15 questions regarding perianal fistula treatment in everyday practice. Results were obtained from 807 (53%) members. After receiving answers, questionnaire results were collected, analysed, and presented in a descriptive form.

### RESULTS

Considering the first question respondents specified the number of perianal fistula operations performed during one year. None of the respondents mentioned that such operations were not performed. 6.38% of surgeons mentioned that they performed less than five such

operations every year, 10.64% mentioned that they performed between 5-10 such operations, 40.43% between 20 and 50 such procedures, and 8.51% performed between 50 and 100 such operations.

Considering the second question respondents specified the percentage of primary perianal fistula procedures in everyday practice. 65.96% mentioned that perianal fistulas represent approximately 30% of all operations, 25.53% mentioned that the above-mentioned represent between 40-60% of all operations, while 8.51% specified that perianal fistulas constitute 70-90% of all surgical procedures. None of the respondents specified that they only performed primary fistula procedures, and not fistula recurrence operations.

Considering the third question respondents mentioned their preferred diagnostic method in case of perianal fistulas. 4.26% reported that they preferred the physical examination as the diagnostic method, 61.70% selected transrectal ultrasonography as the preferred method, 14.89% mentioned fistulography, while 17.02% indicated fistula canal probe examination as the method of choice. MRI of the fistula was selected by 2.13 of respondents.

In case of the following question respondents specified the preferred material used in case of perianal fistula drainage. 10.42% mentioned silicon, while 16.67% a silk suture. The most common answer was multifilament suture- 35.42% respondents. Linen sutures were selected in 22.92% cases, while monofilament sutures in 14.58% of cases.

The fifth question was as follows: What type of operations did you perform last year? 10.64% of respondents selected anal fistula plasty with flap advancement, 12.77% selected fistula excision with reconstruction of anal sphincters, 38.30% mentioned fistulotomy/fistulectomy, 17.02% pointed to the method using tissue glue, while 9.51% chose the Collagen-Plug method. 12.77% of the respondents pointed to other methods than mentioned.

Considering the sixth question respondents specified the recovery percentage after fistula operations (defined as time exceeding 6 months since the date of the operation, free of perianal fistula recurrence). None of the respondents mentioned the recovery rate to be lower than 30%, nor equal to 100%. 4.26% of the respondents estimated the recovery rate at 30%, while 6.38% at 40%. Similarly, 6.38% specified

the recovery rate at 50%, 12.77% at 60%, 38.30% at 70%, 25.53% at 80%, and 6.38% at 90%.

When asked what treatment method would they apply in their own case, most selected fistulectomy/fistulotomy (19%), while 15% preferred the implantation of a loose seton. Only 6% selected Hipokrates's operation.

Considering the eighth question the respondents specified the trans-sphincter perianal fistula surgical method that they would choose in their own case. None of the respondents selected anal fistula plasty with flap advancement. Fistula excision with sphincter reconstruction was selected in 17.02% of cases. Fistulectomy/fistulotomy (classical method) was selected by 46.81% of respondents, 6.38% selected the tissue glue method, and 17.02% chose the Hipocrates method. None of the surgeons selected the Collagen-Plug method. No other method was considered, apart from the above-mentioned.

In case of the ninth question respondents were asked to select the supra-sphincter perianal fistula surgical method if diagnosed with the above-mentioned pathology. 25.53% selected perianal fistula plasty with flap advancement, 29.27% selected fistulectomy/fistulotomy (classical method), while 12.77% chose the tissue glue method. None of the respondents selected fistula excision with anal sphincter muscular reconstruction, nor the Collagen-Plug method. 10.64% selected Hipokrates's operation, while 21.28% chose the implantation of a loose seton. None of the respondents considered a method, other than mentioned.

In case of the tenth question respondents were asked to select the extra-sphincter perianal fistula surgical method if diagnosed with the above-mentioned pathology. Most of the respondents (38.30%) selected fistulectomy/fistulotomy (classical method). Flap advancement plasty was selected in 12.77% of cases, the tissue glue method in 2.13% of cases, the collagen-plug method in 6.38% of cases, Hipocrates's operation in 8.51% of cases, and implantation of a loose seton in 23.4% of cases. None of the respondents selected fistula excision with sphincter reconstruction. 8.51% of surgeons considered a method, other than mentioned.

In case of the eleventh question respondents were asked whether they use antibiotics dur-

ing the perioperative period. Most (93.62%) admitted to the use of perioperative antibiotics, while the remaining 6.38% did not acknowledge the use of the above-mentioned.

In case of the twelfth question respondents were asked whether they use antithrombotic treatment during the perioperative period. 57.45% admitted to antithrombotic prophylaxis, while the remaining 42.55% answered no to the question.

Considering the thirteenth question respondents were asked to specify the method used in the preparation of the patient for perianal surgery. Most (57.45%) mentioned that they perform an enema on the morning of surgery, 29.79% admitted to an enema on the evening before surgery and on the morning of the procedure, while 12.77% recommended total intestinal lavage. None of the respondents operated without prior preparation.

The next question determined postoperative nutrition after perianal fistula surgery. Most respondents (82.98%) admitted to a fluid diet for a period of several days, 12.77% mentioned complete nutrition, while 4.26% – parenteral nutrition.

The last question considered the preferred method of anesthesia. Most respondents (74.47%) selected general anesthesia, 14.89% – epidural anesthesia, 8.51% – endotracheal anesthesia, while 2.13% selected local anesthesia.

## DISCUSSION

Treatment of perianal fistulas is not easy and often requires significant experience, because otherwise one may be responsible for a more severe case of recurrence. Surgical treatment balances between effective management and lack of recurrence, and high risk of stool incontinence and anal sphincter damage. In Poland, only 8% of surgeons who perform between 50 and 100 perianal fistula procedures might consider themselves as experienced.

More than 65% of respondents reported that they only operate 30% of primary fistulas. This means that the remaining procedures include recurrence fistulas, originally falsely operated. Research conducted thus far, showed that in 30-50% of cases the fistula develops as a result of perianal abscess development forming the

primary or additional fistula canal, considering 25% of patients with perianal fistulas (1).

Most abscesses and fistulas do not require additional imaging examinations. Extended diagnostics might be required in case of advanced and severe perianal lesions, such as an additional fistula canal, large abscess, or when assessing the continuity and functioning of anal sphincters.

In Poland, the vast majority of physicians prefer ultrasound diagnostics in case of fistulas. Perianal ultrasonography is easily available, cheap, enabling the visualization of an abscess or fistula at a rate of 80-89% (2, 3). In 82% of cases the ultrasound image precisely corresponds to structures visualized during surgery (4). Hydrogen peroxide administered into the external opening of the fistula increases the accuracy of the ultrasound examination, and facilitates the visualization of the internal opening (5, 6, 7). The use of high-frequency probes and 3D technology increased the accuracy of perianal ultrasonography (6, 8). The combination of an amplified signal, due to hydrogen peroxide, and 3D technology enabled to achieve a diagnostic accuracy rate amounting to 90%, comparable to MRI values (9). However, diagnostic credibility is largely dependent of the operating surgeon. Compartmental field of vision and insufficient identification of levator ani structures are the main technical limitations of the accuracy of ultrasonography, especially when determining the secondary fistula canal (10).

In highly developed countries MRI examinations are also performed, in order to visualize the fistula canal, although in Polish reality this is not possible, due to high costs and availability. MRI is the golden standard, considering perianal sepsis imaging. The above-mentioned examination is recommended for the thorough anatomical assessment of pathological structures in case of a complex fistula, recurrent fistula, and suspicion of an additional fistula canal. MRI accuracy is estimated at 90%, considering perianal sepsis imaging examinations (11). The above-mentioned examination perfectly shows levator ani structures, enabling to differentiate between sub- and supra-sphincter abscesses, which during the “per rectum” physical examination are characterized by a non-specific, solid infiltration of the sub-sphincter area. Meta-analysis comparing MRI and ultrasonography showed

a similar sensitivity in both groups [0.87 (95 CI 0.63-0.96); 0.87 (95% CI 0.07-0.95)]. Higher specificity was observed in case of MRI (0.69 vs. 0.43), although being low in case of both groups (12, 13).

The vast majority of Polish surgeons prefer severing of the fistula. The lay-open technique gives best results, although not being possible in case of all patients. One should not forget that the above-mentioned method is highly effective in case of submucous, intersphincter, and trans-sphincter fistulas, with the canal running through the proximal 1/3 of the sphincter. Severing the fistula is characterized by effective recovery in 79% to 100% of cases (14-17). Unfortunately, even in case of intersphincter fistulas the sectioning of the canal is associated with significant reduction of the maximal anal pressure, and that at rest, as well as worse stool continence results, especially in female patients and those with reduced preoperative sphincter pressure at rest (18).

In prior studies there is no consensus as to the scope of muscular severing, considered to be safe, although it has been shown that the sectioning of more than 25% of the external sphincter significantly correlates with future stool incontinence (19). Assessment of the internal opening of the canal should not be determinant of safe fistulotomy. Based on preoperative MRI, in 50% of trans-sphincter fistula cases the canal is directed obliquely from the internal opening, through the anal sphincter to the ischiorectal fossa, while in 30% of patients the fistula canal runs upwardly from the internal opening at an angle < 60 degrees. Fistulectomy is therefore associated with damage to a greater part of the sphincters, suggested by the internal opening of the fistula, being responsible for postoperative stool incontinence (20). Studies demonstrated that impaired stool continence after fistulectomy is observed in 44% of patients with a low internal fistula opening (17).

In case of complex fistulas, fistulectomy might lead to sphincter damage and stool incontinence. Complex fistulas include the following: high trans-, inter-, and supra-sphincter fistulas, as well as recurrent fistulas, those comprising many canals, in the shape of a horse-shoe, as well as fistulas associated with non-specific inflammatory bowel diseases, post-radiations lesions, early stool incontinence or chronic diarrhea. In case of complex

fistulas surgery is performed by means of the advanced flap technique, being associated with a 70% efficacy. The advanced flap technique is a method allowing surgery without external sphincter muscle continuity damage. The recovery rate ranges between 57% and more than 90%. Retrospective analysis considering 91 patients after advanced flap surgery demonstrated fistula recurrence in 19% of cases, after an average observation period of 42 months (21).

Complex perianal fistulas can also be treated by means of the LIFT technique, a new, cheap and easy method to perform, first described by Rojanasakul et al. in 2007 (22). LIFT requires a small incision of the intersphincter fissure enabling access to the fistula canal. Initial results showed that healing of the fistulas was observed in 17 of 18 patients during an average observation period of 4 weeks (22). Bleier et al. (23) presented the recovery rate at 57% without subjective impairment of stool movement, during an observation period of 20 weeks.

In this study, more than 38% of respondents mentioned that fistula recovery was observed in approximately 70% of cases. This is evidence that in Poland the problem of perianal fistula presence is important, and many reference centers deal with the above-mentioned.

The vast majority of Polish surgeons use perioperative antibiotics and antithrombotic treatment. The Authors of the article also preferred such management. According to American Heart Association guidelines, antibiotics are recommended before surgery in patients with a history of bacterial endocarditis, prosthetic valves, and heart transplant recipients (23).

In Poland, after perianal fistula surgery the majority of patients remain on a fluid diet. It is widely believed that the diet does not have much effect on operative results. After perianal fistula surgery one can resume a regular diet without limitations. However, low in fat and high in fiber diets are recommended having a likely effect on the rate of wound healing

## CONCLUSIONS

The perianal fistula, apparently a non-serious disease, might pose a lot of trouble considering treatment. In case of improper treat-

ment, recurrence might be observed, and thus, deteriorate the patients' general condition. Currently, no known gold standard of treating perianal fistulas has been invented. There are many methods used in the management of fistulas. Many centers prefer the advanced flap procedure. High hopes are associated with the LIFT method. According to literature data in case of shallow fistulas the recommended method of choice consists in their section.

According to our data most Polish surgeons choose the fistulectomy/fistulotomy method. This seems to be a reasonable method of choice,

as long as the fistula canal is located in the distal 1/3 of the sphincter apparatus. However, one should also not forget about Hipokrates's method.

Considering treatment of perianal fistulas the most important issue is to find the proper, primary fistula canal. Further treatment methods should be individually selected for each patient. One should not forget that each fistula is different.

Departments that operate a small number of fistulas during one year should refer such patients to reference centers.

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