Role of Video Assisted Anal Fistula Treatment in our management of fistula-in-ano

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INTRODUCTION:

Perianal fistulas which can not be treated by total extirpation or simple fistulotomy (complex anal fistulas) still remain surgical problem with high level of recurrence even in hands of experienced colorectal surgeon. Reasons of treatment failure can be inability to find internal opening of a fistula which communicates into the rectum or iatrogenic “false route” during revision of the fistula tract while looking for exact internal opening. These situations lead to sphincter damage and increase probability of recurrence of disease. Several guidelines for fistula-in-ano management can be found but they do not include all treatment’s options and are of very low level of evidence. 1,2 Video-assisted anal fistula treatment (VAAFT) is relatively new method invented and described by Piercarlo Meinero with first results published in 2011. 3 Our aim was to verify feasibility of the method, define its position in our management of perianal fistula and evaluate its help in internal opening identification.

METHODS:

From February 2003 to June 2014 54 patients with anal fistula were treated in our Institution. All patients were investigated by colorectal surgeon and necessary investigations were done before procedure if needed (fistulography, endosonography, MRI). Patients without history of Crohn disease were investigated by gastroenterologist before or just after the procedure to exclude this etiology. Recto-vaginal fistulas and fistulas of known malignant origin were excluded. Any other fistulas which were treated by team of surgeons with VAAFT experience and that could not be adequately treated by simple fistulotomy were included in the study. According to these criteria 30 patients were included into the study. Patient’s characteristics are summarized in table 1. The types of fistula were described according to Parks’ classification. 4 Data were obtained through a retrospective review of electronic records.

Operation was performed under general anesthesia in jack-knife or gynecological position consisting of diagnostic phase with anoscopy and rigid fistuloscopy (Meinero fistuloscope, Karl Storz GmbH, Tuttingen, Germany). (Fig.1) During anoscopy an anal canal and distal rectum were carefully investigated, than normal saline or hydrogen peroxide were instilled into the external opening by canula to see the site of internal opening. Small circumcision of external opening was done to allow traction (Fig. 2) and followed by fistuloscopy. Our aim was to investigate all the tracts, clean them by spe-
cial brushing device mainly in its transsphincteric part and identify internal opening. If the internal opening was wide (3mm and more) direct fistuloscopy was performed. (Fig. 3), if not we used light and fluid from fistuloscope as a mark of internal opening in the rectum or original coagulation electrode going through working channel as a wire leader in to the rectum. If identification of internal opening was not easily possible fistuloscopy was finished in effort not to harm internal sphincter and followed by standard manual, probe-based technique. After identification of internal opening and brushing transsphincteric part of the fistula external opening was excised and send for histology investigation. Procedure was finished whether by loose seton drainage with silicon drain via working channel using fistuloscopic grasper (Mono-Drain, Sapimed, Alessandria, Italy) or by mucosal flap.

Symptoms of recurrence were searched during a follow up period.

**RESULTS:**

Within a 17-month observation period fistuloscopy was attempted in 30 patients with perianal fistula with median follow-up 133 days (range 4 - 476). We treated 9 patients in Crohn disease subgroup. All fistulas in this group were complex transsphincteric and in three of them multiple. Most of fistulas were wide and fistuloscopy was possible in 8 of them, internal opening was identified with help of fistuloscope in 5 of them. All IBD patients were treated by loose seton drainage. Diverting stoma was performed once at time of procedure and in two patients after the procedure for disease progression. Two more patients were later indicated for abdominoperineal amputation of the rectum. Three patients are on loose seton drainage until now a two more where completely healed with no symptoms of recurrence until now. In non-IBD subgroup of 21 patients we have found five incomplete fistulas and two complete submucous fistulas which were classified as simple and treated by extirpation and fistulotomy respectively. One patient had extrasphincteric fistula after suppurative prostatitis treated by partial extirpation with drainage and is not healed until now. In subgroup of non-IBD complex transsphincteric fistulas 2 patients were treated by mucosal flap with one early recurrence, other 8 patients were treated by loose seton later transformed to cutting seton with no recurrence in follow up period. Four patients in this subgroup were lost from follow up. All results are summarized in table 2.

**DISCUSSION:**

Our study verified that VAAFT was feasible in 93% of patients and internal opening in a case of complex fistulas was found 67%. Problems with fistuloscopy were observed in situation of very short and narrow fistulas in two cases. Meinero et al. described successful comple-
tion of the method in 100%.\textsuperscript{3,5} Schwandner has presented completion rate of 85%.\textsuperscript{6} We did not found any other relevant study about VAAFT in PubMed database.

Median operative time including stoma formation or mucosal flap construction was 50 minutes (range 25 – 130). Meinero has reported average operative time 90 min ± 30 min (SD).

There was no procedure-related morbidity in our cohort. Meinero found 2 cases of postoperative urinary retention and scrotal edema in one case. No morbidity occurred in Schwandner’s work.

We can conclude that fistuloscopy alone is feasible for diagnosing type of IBD and non-IBD fistulas. VAAFT technique and instruments were helpful for identification of an internal opening in most cases. As such it has established role in our management of fistula-in-ano. Combination of this mainly diagnostic technique with methods aimed on closure of internal opening with comparison to standard procedure is a topic for further studies.

**SUMMARY**

**VIDEO ASISTIRANI TRETMAN ANALNIH FISTULA (VAAFT) U NAŠEM LEÈENJU “FISTULA-IN-ANO”**

Video asistirani tretman analnih fistula (VAAFT) je novija metoda leèenja komplikovanih perianalnih fistula sa maksimalnim oèuvanjem mišiæa sfinktera i prevencijom formiranja pogrešnih kanala. Autori sumiraju svoje iskustvo i operativne rezultate.

Cilj: Potvrda izvodljivosti metode, njena pomoæ u identifikaciji unutrašnjeg otvora i definisanje njene uloge u tretmanu perianalnih fistula.

Metode: Obraæeni su rezultati leèenja pacijenata sa hroniènim benignim perianalnim fistulama, sa ili bez prisustva IBD. Anoskopija sa fistuloskopijom je uèinjena kod svih pacijenata nakon drenaæa labavim setonom ili posle drugih procedura.

Rezultati: Fistuloskopija je pokuæana kod 30 pacijenata; zavræena je kod 93% i unutraæni otvor je naæen kod 67%. Nije bilo morbiditeta povezanog sa ovom methodom.

Zakljuæak: Fistuloskopija je izvodljiva kao samostalna diferencijalna dijagnostička metoda kod IBD i non-IBD fistula. VAAFT tehnika i instrumenti su bili korisni u veæini sluæajeva kod identifikacije unutraænog otvora. Nakon ovih rezultata ova metoda je uvedena kao standardna u naæoj praksi.

**REFERENCES:**


Conflict of interests: There is no conflict of interest. First results of this study were presented on surgical congress Letovice Care 2013.