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Consensus conference on the stapled transanal rectal resection (STARR) for disordered defaecation

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Abstract

An international working party was convened in Rome, Italy on 16–17 June, 2005, with the purpose of developing a consensus on the application of the circular stapling instrument to the treatment of certain rectal conditions, the so-called Stapled Transanal Rectal Resection (STARR). Since the procedure has been submitted to only limited objective analysis it was felt prudent to hold a meeting of interested individuals for the purpose of evaluating the current status and to make conclusions and recommendations concerning the applicability of this new approach.

Keywords Stapling, STARR, rectal resection, anismus, rectocele, obstructed defaecation, dyschezia, rectal invagination

Introduction

As a consequence of the introduction of the stapled haemorrhoidopexy (PPH) by Longo in 1998 [1] there has been a renascent interest in the management of haemorrhoids. Since this initial report there has been a considerable clinical experience reported in many published studies which attest to the relative safety and effectiveness of this unique approach to the management of haemorrhoidal disease. In 2001, an international working party with experience in the performance of the stapled haemorrhoidopexy, was convened. The purpose of this meeting was to develop a consensus on the criteria for performing this procedure which included several recommendations under the headings of: Indications, Contraindications, Concerns, Informed Consent, Technique, and Training [2].

Through a variety of clinical and experimental studies Longo has developed a new surgical technique, using the circular stapler for the management of disordered defaecation [3]. These include obstructed defaecation syndrome (ODS) due to internal prolapse, and rectocele. There have since been a number of reports which attest to successful results in the treatment of outlet obstruction, internal prolapse, and rectocele [4–11]. As Jayne and Finan stated in their Leading Article in the *British Journal of Surgery*,

'...In the interests of good clinical practice, it is imperative that STARR [be] implemented in a safe and responsible manner.' [12]

Moreover, they commented that the indications for STARR have yet to be clearly defined [12]. The development and implementation of the STARR procedure stimulated the impetus for a consensus conference on this

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new approach to the management of disordered defaecation and related conditions.

Results and recommendations

Name of the procedure

Stapled Transanal Rectal Resection (STARR).

Comment
There was no controversy as to the appropriateness of the name of the procedure with its attendant acronym. The name is a reasonably accurate description of the nature of the operation.

Characteristic symptoms—potential indications for STARR

- Evacuation by prolonged or repeated straining;
- Frequent calls to defaecate prior to or following evacuation;
- Use of digital means to effect evacuation;
- Laxative and or enema use required to defaecate;
- Sense of incomplete evacuation;
- Excessive time spent in the toilet;
- Pelvic pressure, rectal discomfort, and perineal pain.

Comment
The above symptoms are in whole or in part characteristic of the individual suffering from obstructed defaecation syndrome (ODS). However, the symptoms are often complex and sometimes difficult to precisely describe. Unfortunately, there is no unique symptom complex or degree of severity that clearly defines ODS apart from other causes of dyschezia. Clearly, as the Panel emphasizes, those patients who may be considered to be potential candidates for STARR should have failed prior conservative treatment to alleviate these persistent symptoms.

Clinical findings

- Rectocele;
- Perineal descent;
- Rectal intussusception (internal prolapse);
- Mucosal prolapse;
- Genito-urinary prolapse;
- Enterocele.

Comment
While some patients may not demonstrate an anatomical abnormality on physical examination, one or more of the above findings are frequently associated conditions. It is the combination of the characteristic history and the anatomical abnormality that may lead a surgeon to offer the STARR procedure, provided that the individual has failed medical management.

Evaluation of the patient

- Clinical assessment (including evaluation of sphincter function, noting in particular the presence of rectocele, intussusception, perineal descent and anal prolapse);
- Proctosigmoidoscopy;
- Colonoscopy or barium enema;
- Defaecography (required) with vaginography (optional). Alternatively, dynamic magnetic resonance imaging (MR) can be used.
- Small bowel series (optional);
- Transit study (optional);
- Anal manometry, including rectal compliance. Rectal capacity (optional).
- EMG (optional);
- Voiding cystourethrogram (optional);
- Pelvic assessment by gynecologist or urologist (optional).

Comment
While the history is of critical importance, it is necessary to document, by means of appropriate physiological investigations, the presence of any anatomical or functional abnormality. Some of the panel members feel that anal manometry can be considered optional. It is a requisite to eliminate other colorectal causes of the patient's complaints of bowel function.

Exclusion criteria

- External full-thickness rectal prolapse (procidentia);
- Perineal infection (abscess, fistula);
- Recto-vaginal fistula;
- Inflammatory bowel disease (including proctitis);
- Radiation proctitis;
- Anal incontinence (Cleveland Clinic Florida; Wexner Score > 7);
- Anal stenosis precluding insertion of the stapling device;
- Enterocele at rest;
- Significant gynecological or urinary pelvic floor abnormality requiring combined treatment;
- Presence of foreign material adjacent to the rectum (e.g. mesh);
- Absence of anatomical or physiological abnormality associated with ODS;
- Intraoperative technical factors which preclude the safe execution of the operation;

- Significant rectal or perirectal fibrosis;
- Prior rectal anastomosis.

Comment

The above represent absolute contraindications. No patient should be submitted to the STARR procedure if one or more of these exclusions are present. Full-thickness prolapse requires one of a number of possible operations directed towards treating this condition. There is no evidence to suggest that STARR can ameliorate external rectal prolapse (procidentia). Infection is a self-evident contraindication. The risk of an ascending anorectal septic process is a very real concern. Therefore, opening additional tissue planes may expose the patient to the risk of pelvic sepsis and to the possibility of Fournier's gangrene. In fact, any disease affecting the rectum should be considered a contraindication, including proctitis, solitary ulcer syndrome, or a noncompliant rectum. One must be wary of causing inadvertent injury to associated structures, hence, the need for caution when an enterocele is present at rest. The same is true for patients who have undergone a urogynecological procedure, with the insertion of mesh adjacent to the rectum or has undergone a prior rectal anastomosis. Insufficient understanding of the effects of scarring and of the blood supply should preclude one from performing the operation under these circumstances.

Critical technical points

- Utilization of the technique as described by Longo is recommended;
- The PPH01 or STR10 stapling devices should be used.

Comment

The concept of the STARR procedure is to resect any internally prolapsed rectum, anatomically to correct a rectocele (if present), and to re-establish continuity of the rectal wall, with restoration of normal anatomy, reduced rectal volume, normal compliance, and improved function. To these ends it is imperative that the surgeon should have knowledge and experience in the use of the PPH instrument. Areas requiring further study include the positioning of the patient (whether lithotomy or prone), the use one or two staplers, the optimal extent of the excision, and the ideal level of the staple line above the dentate line.

Complications

- Bleeding;
- Haematoma;
- Urinary retention;
- Severe pain;
- Dehiscence;
- Infection;
- Faecal incontinence;
- Recto-vaginal fistula;
- Necrotizing fasciitis;
- Peritonitis;
- Faecal urgency.

Comment

Bleeding, pain, incontinence, dehiscence and urinary retention are potential complications of any anorectal operation, including the STARR procedure [12]. Transient faecal urgency incontinence is frequently observed, but this usually resolves within a few weeks. Minor symptoms of incontinence may persist, however. Recto-vaginal fistula and anorectal sepsis have been reported to be very uncommon following stapled haemorrhoidopexy. Therefore, it is probable that these complications, as well as peritonitis, may be unusual consequences of STARR.

Who should perform this procedure?

The following criteria were agreed:

- Knowledge and experience in the use of the PPH instrument;
- Training by a surgeon who is fully qualified for performing the STARR procedure;
- Training and experience in performing anorectal surgery;
- Training and experience in performing colonic surgery;
- Experience with the evaluation, interpretation and management of defaecatory disorders;
- Familiarity with other pelvic disorders;
- Willingness to participate in an outcome analysis.

Comment

There is ample precedent for determining the means for proper introduction of a new technology [2]. It should be self-evident that experience with the PPH device, with both anorectal and colonic surgery, as well as an understanding of anorectal anatomy are requisites.

Targets for future study

Areas for future study for the application of the STARR procedure include selective symptoms due to the irritable bowel syndrome, those with an associated colonic transit abnormality, solitary rectal ulcer syndrome, mild rectal prolapse (< 3 cm), and those with a Cleveland Clinic Florida (Wexner) faecal incontinence score of < 8. The precise role of STARR in marginally incontinent patients

in whom dyschezia may be an important factor merits evaluation. Collection of accurate data is critical to the process of evaluating the safety and efficacy of the STARR procedure [13]. Therefore, the willingness of the surgeon to participate in an outcome analysis is an essential requirement for performing this operation.

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