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Case report Open Access

BOWEL AID AS SUPPLEMENTARY MANAGEMENT IN MESH COMPLICATION-RELATED PAIN: A CASE REPORT

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ABSTRACT

Millions of women suffering from urinary incontinence (UI) and pelvic organ prolapse (POP) globally, and many had synthetic sub-urethral procedures which is one of the mainstay therapy of stress urinary incontinence. It is paramount to learn from patients with mesh complications; in this particular case, perineal pain and dyspareunia related to complication of synthetic sub-urethral sling procedure. This patient has cessation of debilitating pain with the conservative use of bowel aid, and yet she remains to be continent in uresis.

Keywords: Bowel aid, Mesh complications, Synthetic sub-urethral procedures

INTRODUCTION

Synthetic mid-urethral slings (MUSs) have become one of the mainstream therapy for female stress urinary incontinence[1]. Collective experience has revealed overall good safety and efficacy when proper attention is paid to technique and selection of sling material. However, clinicians must remain aware that significant and even lethal complications are possible despite the minimally invasive nature of synthetic mid-urethral sling placement and that complications of these procedures remain underreported in the literature.

The best sling procedure is believed to be one which works best in the hands of the individual surgeon, based upon accumulated experience and familiarity with anatomy such that complications can be avoided. Notably, complications can occur when the procedure is performed by the most experienced hands, or even coupled with appropriate surveillance of intraoperative and postoperative complications. Therefore, to have overall success in urinary incontinence, the world may need more than mesh surgery, to achieve continent and to prevent complications.

In a recent review on postoperative pain outcomes after trans-vaginal mesh revision involving 233 patients, 73% reported improvement of pain. Unfortunately, 19% reported that their pain remained unchanged and 8% claimed that there was worsening of pain after revision surgery[2]. In this case, the use of bowel aid [Fig. 1] is a possible conservative method to cure debilitating perineal pain and dyspareunia related to sub-urethral mesh surgery. Bowel aid is a standard toilet seat (trade name: Colorec) which incorporates a mechanical posterior anococcygeal support device or Hai's perianal support (HPS) specially designed and built by Mecha-Medic Solution Sdn Bhd, a company located in Penang, Malaysia[3]. Bowel aid has obtained Malaysian and US patent since 2006 and has been approved by Korean FDA (Food and Drug Authority) and has CE (Conformité Européenne) mark as it has been classified as Class I with no or minimal risks in its use[4]. As a novel non-invasive device, it is claimed that bowel aid works by providing counter pressure at the posterior aspect of the pelvic floor, balancing the pressure exerted by the faeces on the anal wall. This enhances the reflex of defecation and prevents backward overstretching of anus which enables more effective defecation and reducing the need for straining during defecation, thus able *to* alleviate chronic constipation and prevent complications which can occur from it[4].

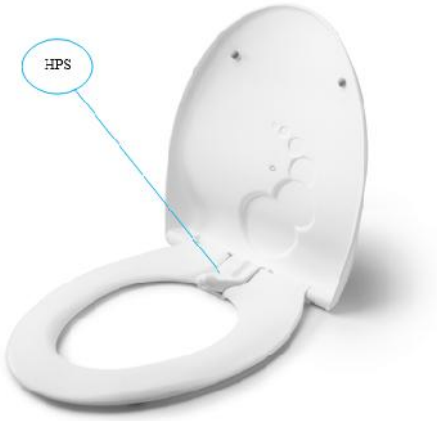

Fig 1: Bowel aid toilet seat device (Colorec)[3]

CASE REPORT

The patient, a mother of 3 children had started to have stress urinary incontinence at the age of 45. It was a depressing situation in which she needs to find a toilet fast every time she went for outdoor activities and at times, she may wet herself. Therefore, she has shunned herself from the world for a few years. The patient finally sought help and she was diagnosed to have urogenital prolapse with urinary incontinence. She had subsequently undergone suburethral sling procedure, at the age of 48 years old. Post-operatively, her stress urinary incontinence resolved.

However, her night mares began about 2 to 3 years later, when she developed sharp pain at the perineum initiated by micturition and defecation, and each episode lasted about 1 and a half to 2 hours, causing her to scream in pain. This condition has also affected her professional duty because she frequently needed to be brought to the Emergency Department for parenteral pain relief. She also experienced dyspareunia, and therefore avoided sexual intercourse. Further questioning revealed infrequent constipation and she remained continent.

She had tried many possible remedies, ranging from exercise to traditional massages for the pain, only to fail. Subsequently, she was recommended to try on the bowel aid. There was no improvement of symptoms in the first week of use. However, she noted the duration of pain was getting lesser from the second week onwards, almost not felt by 2 months and the pain had completely disappeared from 6 months of usage. In relation to sexual intercourse, she reported to have pain reduction by half after 6 months and the dyspareunia has totally disappeared after a year of using the bowel aid.

She has since felt cessation of pain after she passed urine and motion. Currently, her life is without urinary incontinence, no perineal pain and no dyspareunia. She reported occasional feeling of pulling sensation at the perineum when her bladder is overly-distended.

DISCUSSION

Urinary incontinence (UI) and pelvic organ prolapse (POP) affect millions of women globally and mesh surgery is gaining popularity as a treatment, therefore mesh complications are seen more commonly now, and at times associated with medico-legal implications. Mesh surgery has been used to treat hernia (hernioplasty) for many years in the past, without much problem. In hernioplasty the mesh is indicated to patch the 'wall', in contrast to UI and POP, for which mesh is advocated to reconstruct the 'floor'. UI and POP constitute a small portion of pelvic floor disorders (PFD), as compared to constipation, which is a more common problem associated with PFD. The sagging of the pelvic floor especially the posterior aspect has resultant in more than 50% of the obstructive chronic constipations[5, 6].

Mid-urethral sling surgery only lifts up the part of sagging which is directly responsible for the symptoms of UI. The constipation associated with the sagging of posterior part of pelvic floor is however, uncorrected. Constipation is known as an important factor causing the damage of the natural pelvic floor support[7]; this same effect from chronic constipation which is uncorrected, is expected to continuously occur on the reconstructed site and will subsequently lead to complication. Similarly, in our everyday physiological process of defecation, feces are guided by the curvature of sacrococcygeal bone till the tip of coccyx and beyond that point, it starts to push and exerting pressure on the pelvic floor on straining. The existing sagging of rectal wall from numerous reasons, eg. ageing or pelvic floor damage, may contribute further to the difficulty of fecal evacuation and more straining will be needed.

Study on healthy individual demonstrated that bladder descends by 3cm during normal defecation[8]. The descent of pelvic floor is anticipated to be more for those individuals with PFD and associated constipation. With the rest of pelvic floor and organs sagging during defecation, the burden on the mesh which is made from non-stretchable material, therefore multiplies. The mesh may be strong enough to withstand the fecal load but often, not the soft tissue at the area surrounding the mesh. Thus this case report concurred with Walsh's finding on patients with PFD presented with pain and stress urinary incontinence after synthetic mid-urethral mesh surgery[1].

Straining especially during defecation will push the pelvic organs downward towards the mesh. When the mesh touches the nerves plexus within the tunica adventitia of urethra and bladder, pain is triggered. Initially it may be reversible, lasting for minutes after defecations. Unfortunately, the situation may worsen as the mesh gradually migrates toward the nerves plexus and that often results in the lengthening of duration and increasing the intensity of pain after defecation.

If the pressure onto the mesh and surrounding tissue can be kept within physiological limit, pelvic reconstructive surgery with mesh will continue to be a great medical achievement which correct the primary problems of UI and POP successfully, minus the associated complications of the mesh surgery. Therefore, post- mesh surgeries, patient is advised not to strain during defecation, not to lift weight and to avoid constipation. Regular bowel habit, adequate water and fiber intake and usage of laxative are efforts to minimize straining during defecation. All these seem to be insufficient in preventing overloading of pressure onto the mesh and surrounding area and as a result, complications surfaced with the blame put onto the mesh surgeries.

The bowel aid acts by providing supplementary support at posterior part of pelvic floor during defecation, when the pelvic support is challenged most[9]. With the support, obstructed defecation due to bending of rectal passage is prevented and it also enhance the reflex of defecation which ease defecation. It allows defecation to take place with minimal straining and descend of pelvic floor. The bowel aid is proven to benefit even in cases of anal fissure, which is the commonest complication of chronic constipation and the commonest cause of anal bleeding[10-12]. It has gained fast acceptance in the field of colorectal surgeries, whereby it is widely shared in colorectal conferences, having multiple published clinical papers, updated in clinical guideline, medical reviews and surgical textbooks[13-16]. Interestingly, in this case, the

bowel aid helped to reduce dyspareunia, pain upon micturition and defecation.

Like any other surgeries, there are multiple factors that collectively contribute to a successful therapeutic outcome. Good quality mesh, surgical skill, healing ability (eg: free from diabetic etc.) and pelvic floor exercise are important factors that are essential for the success of mesh surgery. At the same time there are multiple negative factors that may complicate the surgery or to the extent of causing mesh failure. These include ageing, chronic cough, weight lifting and straining, during which the push down of the pelvic floor occurs at defecation. It is impossible to eliminate all these negative factors in total. The summation of the entire positive and negative factors gives the outcomes. Therefore, for successful outcome, the credit does not go to the successful surgery alone but also to practicing of positive factors and eliminating negative factors. On the other hand, it is also unfair to blame and take legal action on the doctor when the surgery failed.

Bowel aid contributes to the strengthening of total positive factors and at the same time help to eliminate some of the important negative factors. By easing defecation in this patient, bowel aid minimizes straining and protects her pelvic floor from causing downward pushing pressure onto the nerve plexus during defecation. This patient is probably the first in the world, whom has used a bowel aid, to report recovery from mesh surgery-related pain without the need of removal of the mesh.

CONCLUSION

It is difficult to draw the exact conclusion with the single success story but it is sufficient to imply that the bowel aid may have great therapeutic potential in managing mesh complication. Bowel aid has proven success in managing constipation related complication. While awaiting stronger evidence by having more patients to come forward with similar problems to use bowel aid; we should understand the patients' plight, to offer very conservative, yet cost effective bowel aid as to supplement the limited option available for the sufferers of mesh-complication before more invasive and costly interventions are recommended.

Conflicts of Interest: Nil

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