Management of pelvic organ prolapse

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Symptomatic pelvic organ prolapse can afflict up to 10% of women. Urinary incontinence, voiding dysfunction or difficulty possibly related to bladder outlet obstruction are common symptoms. Infrequently hydronephrosis or defecatory dysfunction can be seen. The management of pelvic organ prolapse (POP) should start with adequate assessment of all pelvic floor complaints. If a patient is not symptomatic, surgical intervention is usually not indicated. While the use of a variety of graft materials are available today including porcine, dermal and synthetic grafts, that are used in some surgical approaches to pelvic organ prolapse, other more conservative approaches may prove beneficial to many patients. This article describes our approach to the patient with pelvic organ prolapse.

Key Words: pelvic organ prolapse, mesh, transvaginal mesh, pessary, pelvic floor

Introduction

The prevalence of symptomatic pelvic organ prolapse (POP) is reported to be 5%-10%.[1,2] The lifetime incidence of surgical intervention for pelvic organ prolapse is estimated at 11% with a 29% risk of re-operation.[3] To address the needs of our patient population surgical technology has been rapidly evolving, especially over the past 10 years. More recently mesh has been widely used for POP repair; however, it has been utilized in gynecologic surgical repair since the 1970s. In 2002, the Food and Drug Administration (FDA) approved the first surgical mesh specifically for use in POP. Recently, the transvaginal mesh (TVM) repair kits for pelvic organ prolapse have come under fire after an updated FDA safety communication in July 2011, which "informed healthcare providers and patients that the risks of serious complications associated with transvaginal POP repair with mesh are NOT rare...".[4] Undoubtedly, there exists a great controversy regarding this subject matter and each side has very compelling arguments. It is difficult to compare and evaluate outcomes due to diverging definitions of success. Certainly, comparing different TVM techniques and products adds another level of confusion.

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Our approach to pelvic organ prolapse

Personally, we have been hesitant to use transvaginal mesh given the paucity of long term data available. The short to intermediate data seems acceptable, but the complication (e.g. mesh exposure, dyspareunia) rates have been higher than traditional abdominal approaches.[5] The picture gets even more obscure when you consider the fact that there are new mesh kits coming on the market that have little to no literature on their risk profile. We believe there is a role for transvaginal mesh in selective patient. However, we do not believe our practice will change much with the new FDA communication regarding TVM kits for POP.

In this "How I Do It" article, we share our personal approach to managing POP in the clinical setting. It is by no means the only way. While our methods may seem to highlight the conservative, we believe it is easy to get caught up in the hype behind the hot new tech on the market and forget the simple, non-invasive interventions that still garner excellent results.

Work up

In addition to a full history and physical, standardized questionnaires namely the Incontinence Impact Questionnaire (IIQ-7), Urogenital Distress Inventory (UDI-6), Pelvic Pain Urgency/Frequency Patient Survey (PUF), and Female Sexual Function Index are used for all new patients. In general, we usually recommend Fluoro-urodynamics for patients complaining of POP symptoms with their prolapse

reduced (rectal swabs placed gently in the vagina). If there are associated defacatory issues, depending on the problem defacography, anomanometry, Sitz marker studies, colonoscopy, and/or colorectal surgical consultation can be obtained. We are fortunate at our institution to have two colorectal surgeons that work closely with our pelvic floor center. We believe a multi-disciplinary approach to POP involving urology, gynecology and colorectal colleagues as well as physiotherapists leads to better results and higher patient satisfaction.

Conservative management of pelvic organ prolapse

We always start conservatively when considering treatment for POP. In our opinion, anatomic prolapse without significant symptomatology is not an indication for surgical intervention. When assessing "success", patient satisfaction, placation of symptoms, and lack of complications are always key. It does not make intuitive sense to expose patients to unnecessary morbidity, when they are not symptomatic. We believe a fair comparison is managing lower urinary tract symptoms from benign prostatic hyperplasia in men. We don't recommend medication and/or surgery onto healthy men unless they are bothered by their symptoms. Similarly, we don't suggest surgical treatment for healthy female patients with anatomic POP who are without symptoms. For those patients with asymptomatic anatomic POP, conservative management and long term follow up is important.

We generally recommend a pessary trial for all new patients with POP. Many are surprised with the significant improvements they experience with a pessary trial. Besides the proven benefit of unmasking stress urinary incontinence before attempting surgical repair,[6] it can also be used for long term management. Lone et al recently described a prospective evaluation of women with POP who chose to use pessary. One hundred and fifty-one women were included in the analysis and 130 (86.1%) continued to use a pessary successfully over 5 years. An overall complication rate of 12.1% was reported, which consisted of mostly minor complaints of pain, excoriation, and/or constipation.[7] A group from China recently reported the effect of pessary use on quality of life and symptom improvement (using validated questionnaires) with 1 year follow up. Symptoms and quality of life in 72 patients were evaluated using the UDI-6 and the IIQ-7 at baseline, post-insertion at 2 months, and at 1 year. Forty-six patients chose a pessary with 37 (80%) continuing use at 1 year follow up. Both UDI-6 and IIQ-7 demonstrated significant improvements from baseline at 1 year. A multi-variate analysis of those who discontinued pessary treatment found diabetes, urinary incontinence, osteoporosis, previous knee/hip surgery, and lack of family support to be significant risk factors.[8] Most side effects from pessary use (e.g. excoriation, bleeding, pain) can be managed conservatively. Major urinary/bowel complications (e.g. fistula, urosepsis) are exceedingly rare. Depending on the style of pessary, sexual intercourse is possible. Although, it is not surprising that pessary use tends to skew towards older women who are no longer sexually active. With appropriate follow up and access to ancillary resources (e.g. physiotherapists), we have been able to manage a large number of patients conservatively with pessary alone.

Pelvic floor physical therapy or muscle therapy (PFMT) in the treatment of POP is being reported on more and more in the literature. Why it works is still not quite clear, but what is becoming clearer is that it helps achieve symptomatic relief from POP in many patients. A group from Norway recently did a well designed randomized controlled trial comparing a control group of women to a treatment group of women who were given individual sessions with a physical therapist and daily home exercises for 6 months. Using 3-D ultrasonography, the group was able to show significant increases in muscle thickness, decreases in hiatal area, and elevated positioning of the bladder and rectum in the treatment arm.[9] The same group showed in a separate publication on the same cohort a significant improvement in POP stage and reduction in frequency/bother of prolapse, bladder, and bowel symptoms.[10] These two studies corroborate the idea that a patient can regain some pelvic floor strength and/or stiffness to alleviate their POP symptoms. Of course, the Norwegian studies had limited follow up of only 6 months and the group in the physical therapy arm needed to maintain 80% compliance with the regimen, which enforces the notion that the patient adherence to treatment will ultimately dictate how successful PFMT ends up being. We feel confident that PFMT plays a significant role in improving symptoms from POP. Even in patients whom we operate on, we believe POP and pelvic floor dysfunction has an inherent progressive nature and advocate continuing PFMT even after corrective surgery to achieve the best long term results. Unfortunately, we are often at the mercy of healthcare plans when it comes to referring our patients to pelvic floor physiotherapists. Many of the physiotherapists we work with are aware of this issue and emphasize teaching patients the proper techniques and distributing literature and video

content so patients can continue their techniques and exercises at home indefinitely. In the motivated patient, we feel that PFMT is an invaluable management tool.

Surgical management of pelvic organ prolapse

We generally don't operate on patients unless they are symptomatic. Adding the morbidity of surgery to a patient with only anatomic abnormalities usually results in an unhappy patient. Once the patient and the team have come to the decision to pursue surgery together, then we discuss options with them. The pessary trial and urodynamic evaluation is important to us because if the patient is found to have occult stress urinary incontinence we will discuss a concomitant incontinence procedure with the patient. It is not our usual practice to place a mid-urethral sling or perform a Burch colposuspension procedure at time of POP repair unless the patient has stress urinary incontinence (SUI) preoperatively with POP reduced. We believe this adds the possibility of overtreatment and undue morbidity. In fact, in an overview, Fatton examines the evidence regarding SUI prevention in continent women undergoing POP repair. He evaluates a well known randomized trial by Brubaker et al which advocates additional Burch colposuspension be performed at time of abdominal sacrocolpopexy in order to reduce the risk of postoperative SUI. Upon examination, the author notes that 56% of the patients in this randomized trial are dry postoperatively in the no-intervention arm and 24% still experience SUI in the Burch colposuspension arm. He goes on to state "thus, a systematic prophylactic Burch colposuspension would result in an overtreatment in more than 50% of the patients.".[11] We believe if you are trying to decide whether you will or will not perform concomitant SUI procedure at time of POP repair it is best to involve your patient. Counseling them on the risks associated with either choice and knowing their expectations should lead you both to the right approach.

Another controversial topic involves the recent FDA communication and the use of transvaginal mesh kits for POP repair. The FDA's recent update on high complication rates with these kits will likely scare surgeons off from performing these procedures until more outcomes research has been done. This is an issue that will be the subject of debate and controversy for some time. We advocate the use of anterior TVM kits for a very select group of patients. Notably, those with a previously failed POP repair, particularly if it is isolated to the anterior compartment. We present the data on mesh complications to the patient to help them make the best possible educated decision on how to proceed.

Unfortunately, there are so many different transvaginal mesh kits on the market with different surgical methods it becomes hard to compare the data objectively. Anatomic success rates with most synthetic meshes have ranged between 79%-95% with follow up up to 1 year.[12] Long term outcomes are unknown at this point. The FDA update from July 2011 highlighted concerns over mesh related complications. They described an overall 10 percent rate of mesh erosion based on data from 110 different studies covering 11,785 total patients. They go on to describe that more than half of the women with mesh erosion from non-absorbable synthetic mesh required surgical excision.[4] There are still many questions to be answered in regards to the long term efficacy and safety profile of transvaginal mesh kits.

The gold standard for apical and/or multiple compartment defects is still the abdominal sacrocolpopexy. Over the past few years, we have become facile with the robotic sacrocolpopexy approach. It is our preferred route of intervention when managing apical and/or multiple compartment defects. It is an easier operation than the pure laparoscopic approach thanks to the increased dexterity afforded by the da Vinci system (Intuitive Systems, Sunnyvale, CA, USA). The 3-D visualization, magnification, and ease of access to the posterior vagina makes it our preferred choice for surgical management of apical and/or multiple compartment defects.

Posterior compartment defects have been repaired by a myriad of different techniques e.g. transvaginally, transrectally, suture only, with mesh, etc. The repair we perform depends on the location of the defect in the posterior compartment. If the defect is central and there is still good support and attachment of the rectovaginal septum proximally to the uterosacral ligament then we will often perform transvaginal posterior colporrhaphy without mesh. A recent randomized trial by Paraiso et al compared traditional posterior colporrhaphy, site-specific suture repair, and site-specific repair with porcine mesh. One year out, the site specific repair with mesh had significantly greater anatomic failure rates compared to the two suture based repairs.[13] Combining the experience in the literature and our own hesitation to place mesh near the rectum, we favor a traditional posterior colporrhaphy for most posterior compartment defects. Please refer to Table 1 for a brief overview of quality of life scores after repair from recent POP studies.

TABLE 1. **Recent pelvic organ prolapse repair quality of life assessment**

Author	Type of repair/intervention	Number of of patients	Mean follow up	Overall quality of life assessment*
Bacle et al[14]	Laparoscopic Sacrocolpopexy	501	20.1 months	86.4%
Altman et al[12]	Anterior colporraphy (no mesh)	189	12 months	62%
Sergent et al[15]	Transvaginal mesh kit (Pelvitex by Bard)	114	24 months	72%
Lone et al[7]	Pessary	151	12 months	86.1%

*assessments using various standardized scales

Conclusion

This is such an exciting time for pelvic medicine and reconstruction surgery. Historically, the topic of POP was rarely discussed by women and it was often just tolerated and endured. Over the last 15 years we have seen tremendous advancements and changes in this field. The recent FDA communication is making us reflect back on the many changes in this field, and it has opened a healthy debate regarding the best management and techniques. It is difficult to know when and where the dust will settle, but all of us agree that our patients' safety is our greatest concern.

This is just a brief overview of how we manage pelvic organ prolapse. In this discussion you will not find a specific technique or procedure that will help prevent complications when treating POP. We believe the best way to avoid unhappy patients and bad outcomes is having open discussions with your patients, knowing when to operate and what type of surgery to perform. When considering surgery, we try to take into account the specific anatomic defect, symptoms, desired quality of life, and lifestyle for each individual patient.

However you choose to treat prolapse, we believe an ongoing multi-disciplinary approach incorporating both surgical and conservative intervention is the key to long term success. We firmly believe that POP is progressive in its nature even after surgical "cure". The most important takeaway is that there is no one algorithm, surgery, etc. that will apply to all patients. □

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