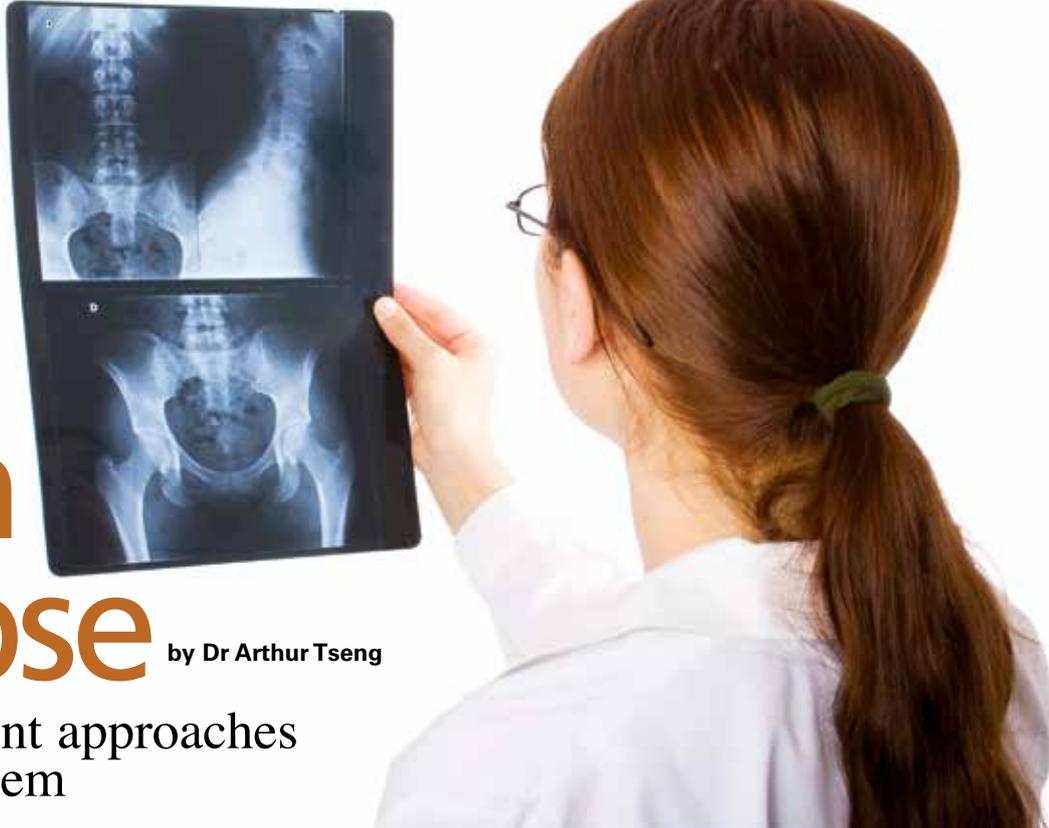


# Pelvic Organ Prolapse

by Dr Arthur Tseng

Current management approaches to a common problem



With advancements in medical care, many chronic diseases are treatable, and we enjoy unprecedented health despite our rapidly ageing population in Singapore. As the more visible chronic diseases become easily manageable, other less visible diseases are coming to the forefront as the baby boomers in our population experience life in their golden years. Pelvic organ prolapse (POP) is one such neglected entity that adversely affects a patient's quality of life, and can only become more prevalent with time. The prevalence of prolapse varies from 2-48%.<sup>1,2</sup> It was estimated that 30% of all hysterectomies for POP occurred in women greater than 50 years old (compared to 7% in the 15-49 year age group). The annual incidence of hysterectomy for prolapse peaked in the 65-69 year age group at around 30 per 10,000 (0.3%).<sup>3</sup>

## What is Pelvic Organ Prolapse (POP)?

Pelvic organ prolapse (POP) is defined as the symptomatic descent of one or more of the following: the anterior vaginal wall and the bladder (cystourethrocele), the posterior vaginal wall with the rectum (rectocele) and the apex (cervix/uterus) or vault (cuff after hysterectomy) of the vagina, resulting in utero-vaginal and vault prolapse respectively.

## Causes of POP

The damage of the supporting fascial-ligamentous structures of the pelvis predispose to POP,<sup>4</sup> and the risk factors include pregnancy, childbirth and birth weight, parity, previous pelvic surgery and menopause. Conditions such as chronic cough, asthma, constipation, carrying heavy loads, or obesity predispose and worsen prolapse.<sup>2, 5-11</sup>

The severity of prolapse is assessed on the distance of protrusion from the hymeneal orifice. The signs and symptoms of prolapse usually increase with worsening severity (but some may still be asymptomatic), and include seeing or feeling the prolapse, vaginal heaviness, suprapubic/pelvic discomfort, difficulty having sexual intercourse or dyspareunia, lower backache and vaginal discharge/bleeding. In severe cases, they may be voiding dysfunction or mobility issues.<sup>1</sup>



*Dr Arthur Tseng is a Consultant Obstetrician and Gynaecologist at Gleneagles Hospital, Singapore. He sub-specialises in Urogynaecology and Pelvic Reconstructive Surgery.*

## Assessment in POP

When patients present with POP, assessment for urinary incontinence is required as both conditions are interconnected. There is the entity of occult urodynamic stress incontinence (USI), which has an incidence rate of 23-50%.<sup>12</sup> Medical conditions that are treatable should be assessed and therapy optimisation instituted, including improving asthma control, correcting constipation, or controlled weight loss. Previous conservative, medical and surgical treatment for POP should be noted as they affect treatment outcomes.

Routine urine microscopy and culture is performed to exclude infection, and an ultrasound of the pelvis is useful in excluding gynaecological conditions that require urgent treatment (e.g. ovarian cancer) or impact on prolapse (e.g. large fibroid causing pressure effects). An ultrasound of the upper renal tract can be done for severe POP, as up to one-third of patients may have obstructive uropathic changes.<sup>13</sup> Ultrasound can also be used to delineate the pelvic floor to aid in localising defects.<sup>14</sup>

An essential part of assessment would be urodynamic studies, which comprises uroflowmetry, simple filling and voiding cystometry and urethral pressure profilometry. These tests are performed when urinary symptoms are complex and/or there is a need for surgery.

Uroflowmetry is a useful screen for possible voiding dysfunction. Cystometry involves inserting catheters into the bladder and rectum to monitor pressure changes with respect to volume of instilled sterile fluids. It allows for the diagnosis of urodynamic stress incontinence (USI) and occult USI, detrusor overactivity (DO) or mixed urinary incontinence and causes of voiding dysfunction. There is a 3% risk of UTI with urodynamics, hence preventive antibiotics are given immediately after the procedure.<sup>15-18</sup>

## Treatment Options for POP

The treatment for POP is dependent on the patient's age, prolapse severity, underlying medical conditions and childbearing wishes. Generally, once women have prolapse, it is impossible to recover, hence prevention is important. An experienced obstetrician to manage the pregnancy optimally is required. This involves constipation control, monitoring weight increase and estimated foetal weight, and antenatal and post-natal pelvic floor exercise (PFE).

This popular non-surgical treatment may prevent or reduce prolapse occurrence, though regular exercise is crucial. Once prolapse has occurred, PFE may improve symptomology, but it does not cure POP.<sup>19</sup>

Patients who are not suitable or keen for surgery may have a vaginal pessary fitted. It can also be a temporising measure for patients awaiting surgery. The commonest is a ring pessary, used to support and relieve prolapse symptoms. Patients fitted with a pessary will require regular pelvic examinations every three to four months unless they can successfully remove and insert their pessary themselves. At a review, the doctor can remove

the pessary, cleanse the vagina and exclude ulcers before replacing the pessary with a new one. The judicious use of topical oestrogens aids in maintaining mucosal integrity and should be restricted to a maximum of three months for patients with an intact uterus.<sup>20,21</sup>

Vaginal surgery is the curative treatment of choice for patients with POP. In cases of utero-vaginal prolapse, a vaginal hysterectomy (VH) can be performed. In cases of a hyper-elongated cervix, a Manchester's operation can remove the prolapsing cervix whilst retaining the uterus. In cases of cystocele and/or rectocele, repair of the herniation is called an anterior and posterior colporrhaphy or a pelvic floor repair (PFR). In cases of vault prolapse, a sacrospinous ligament fixation (SSF) attaches the vaginal apex to the right ligament (usually) with non-absorbable sutures. The commonest side effect is short-term pain in the right gluteal region, which is relieved by simple analgesics.<sup>22</sup> In almost all cases, reconstruction of the disrupted perineal body (perineorrhaphy) is paramount in supporting the entire pelvic floor. The reduction in vaginal aperture diameter also reduces pressure transmission forces that predispose to prolapse.<sup>23</sup> Post-operative advice is given (i.e. to not carry heavy loads, to avoid constipation and to not squat) as these actions may increase prolapse recurrence.

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### Complications of POP Surgery

There are attendant risks with general anaesthesia and they should be made known to the patient before surgery. There are also surgical complications which include risk of bleeding, infection at wound site and trauma to the bladder or rectum. These risks are low (around 1%) when surgery is done by experienced surgeons. Atelectatic pneumonia can be prevented by deep breathing exercises and early ambulation. Deep vein thrombosis (DVT) and pulmonary embolus (PE) can be prevented by using TED stockings and pneumatic calf compression devices, early ambulation and low-molecular weight heparin (LMWH) injections.

### Mesh Kits in POP Surgery – An Update

In all cases of severe prolapse, there is a significant risk of recurrence. This led to the introduction of synthetic, non-absorbable mesh kits to support the pelvic organs. It was considered a safe and effective procedure, with long-lasting cure rates, no serious complications and mesh erosions rates of 10%-16%. In July 2011, the U.S. Food and Drug Administration (FDA) issued a bulletin stating that individuals with transvaginal mesh kits had complaints of "mesh becoming exposed or protruding out of the vaginal tissue (erosion), pain, infection, bleeding and pain during sexual intercourse, organ perforation from surgical tools used in the mesh placement procedure, and urinary problems". Some reports cited the need for additional surgeries or hospitalisation to "treat complications or to remove the mesh", and the number of complaints between 2008 and 2010 were reported at "1503 adverse event reports associated with mesh used for POP repair". This prompted a "review of scientific literature published between 1996 and 2010 comparing mesh surgeries to non-mesh surgeries. The agency review suggests that many patients who undergo transvaginal POP repair with mesh are exposed to additional risks, compared to patients who undergo POP repair with stitches alone. While mesh often corrected anatomy, there was no evidence that mesh provided any greater clinical benefit than non-mesh surgeries." This triggered certain companies to withdraw prolapse mesh kit products and cease production amidst a flurry of mounting legal complaints.<sup>24,25</sup> Currently, natural tissue repair appears to be the safest method and has a low complication rate if done by experienced specialists. **MG**

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