Full Abstracts

CR-MESH REPAIR FOR POSTERIOR COMPARTMENT PROLAPSE

ERICA STOCCO, GIUSEPPE DODI
Clinica Chirurgica 2, Università di Padova, Italy

Introduction

Pelvic organ prolapses (POP) include genital prolapses (anterior and posterior colpopcele, hysteroccele, vault prolapse, and enterocele), anal prolapses (haemorrhoids, mucosal and rectal prolapse), and the so called internal prolapses of the terminal bowel (occult mucosal prolapse and rectal intussusception). The results of CR-Mesh repair in POP are presented with special attention to the signs and symptoms connected to the posterior vaginal compartment and the ano-rectum, i.e. dyspareunia, constipation, and fecal incontinence.

Materials and Methods

Forty one patients have been treated for POP between 2007 and 2011, mean age 63.1 (41-84), average 2 pregnancies, 85% in menopause (44% surgical), 50% sexually active, having had previous surgery: 5% urological, 37% POP, 49% hysterectomy, and 24% rectal. The pre-operative work-up included a multidisciplinary evaluation by urologist, gynecologist and colorectal surgeon. The patients have been studied, according to symptoms and signs, as follows: imaging procedures (cysto-colpo-telecscopy, RMI, perineal/endoanal ultrasound, abdominal US, barium enema, colonscopy), functional tests (urodynamic study, solid sphere test, EMG, anal manometry, intestinal transit time), diaries (constipation, fecal incontinence, urinary incontinence), quality of life assessment, measurement of genital prolapse conforming the POP-Q system, classification of anal and internal prolapses in 4 degrees, (rectocele being defined as a hernia of lower rectum into perineal body, well distinguished from posterior colpopcele that can be associated in various HWS degrees), measurement of constipation severity conforming the Cleveland Clinic Score (0-30,mild 1-5, moderate 6-10, severe 11-15 or very severe 16-30, of fecal incontinence using the American Medical Score System (AMS, 0-120, including QoL), of dyspareunia superficial and deep, according to quality of life impairment. Patients’ complaints were: anal, abdominal, perineal or genital pain (61%), sense of prolapse (100%), dyspareunia (17%), urinary incontinence (34%) (stress/urge, with a pathological urodynamic study in 15% of the cases), voiding LUTS (32%), constipation (32%) with obstructed defecation in 19% of cases, fecal incontinence (15%), rectal prolapse (7%) and diagnosis of rectal intussusception in 19% of cases. The surgical technique used was a transvaginal placement of a CR-Mesh, fixed to the sacrosinous ligaments. We treated 15% of patients by an anterior mesh, 41% by posterior mesh and 44% by double mesh (anterior and posterior) according to patients’ pre-operative POP-Q and intra-operative clinical evaluation. The mean operating time was 159 min, being slightly longer for double correction and shorter for posterior mesh only. Estimated blood losses were not relevant (average 35 cc, 0 – 500). Mean hospital stay has been 7 days (3-12), being prolonged in the first series of patients due to the learning curve and because of urinary retention or other complications. Intra-operative complications were bladder perforations (3 cases, small size lesions, conservative treatment, no sequelae) and one small rectal lesion repaired immediately without consequences. Post-operative complications consisted in anemia (the maximum blood transfusion was 3 units), one case requiring re-hospitalization for vaginal haemorrhage. Other post-operative complications included 1 case of pre-sacral haematoma, 2 cases of urinary tract infections, 1 case of femoral neuropathy treated by rehabilitation, with no sequelae and 1 pelvic abscess (spontaneously drained and treated with antibiotics, requiring re-hospitalization. The mean follow up was 19 months (2-33).

Results and discussion

No patients had stage of POP-Q less than II,7% had a stage II, 69% III, and 24%IV. After the treatment, 49% had a stage 0, 15% I, 7% II, and none III or IV, the difference being significant (p<0.001, trend test). Erosion rate has been 19%, considering also lesions <4 mm, only 2 cases reached 20 mm diameter and required local removal of the exposed mesh. No patients had recurrent prolapse (POP-Q stage >II or symptomatic II stage) in the treated compartment. Stage I was observed in one case and asymptomatic stage II in 2 cases. A new prolapse in the untreated compartment (POP-Q stage >II, or symptomatic stage II) developed in 2 patients (5%); a stage I was present in 3 cases (7%), and an asymptomatic stage II in 8 (19%). Focusing our attention on the posterior compartment, I degree rectocele preoperatively was seen in 11 women, after surgery in 9, while a II and III degree respectively in 12 and 6, but none postoperatively. Eight patients complained for 1 degree haemorrhoids pre-, and 5 postoperatively, for II degree one case pre- and postoperatively. A preoperative I and II degree mucosal prolapse (18 and 6 cases), after the operation was reduced respectively from 18 to 15 cases, and from 6 to 1. Enterocoele (I-IV degree) was no more detected at follow up. Rectal intussusception decreased from 8 to 3 cases; complete rectal prolapse was corrected in 2/3 cases, the third one requiring an anal encirclement after CR-Mesh. Fecal incontinence was a complaint for 6 patients pre-operatively being associated to complete rectal prolapse in 3, and to intussusception or mucosal prolapse in the others. It was corrected after surgery in all but one patient who was emotionally very disturbed both pre and postoperatively. The CCS score of constipation did not show any significant variation after surgery, despite the type of mesh, anterior, posterior or double, and the correction of posterior colpopcele and rectocele. Pre-operatively 50% of patients were sexually active and post-operatively 46, dyspareunia being a preoperative complaint in 19%, and after surgery in 17%, both data being not significant. These numbers have been explained in some patients with the fear for the intercourse after surgery. Impairment of quality of life caused by the prolapse was either moderate or severe in 100% of the patients; after surgery QoL was good or only slightly altered in 82% of patients, and moderately or severely impaired in 18% due also to general health, psychological or social problems, the improvement being anyway highly significant (p<0.001, trend test).

Conclusions

CR-Mesh appears to be a good procedure for the treatment of Pelvic Organ Prolapses, the results in the treated compartment being satisfactory at middle and long term follow up. Complications are few and without consequences, the results in vaginal function are good. There are interesting data concerning the correction of ano-rectal prolapses and of ano-rectal dysfunctions: both complete rectal prolapse and intussusception can recover only when the mesh blocks the bowel descent starting low enough in the pelvis. This study is a further demonstration that constipa-
tions depend on other causes than merely the posterior compartment prolapse when present. An open question remains the need for an overtreatment to prevent prolapses in the untreated compartment.

THE IMPROVEMENT OF URINARY QOL AFTER THE TFS TENSIONED MINISLING OPERATIONS FOR ADVANCED PELVIC ORGAN PROLAPSE IN OUTPATIENT CLINIC – 1 YEAR RESULTS –

YUKI SEKIIKUCHI, YOKO AZEKOSHI, MANAMI KINUHO, YOSHIKO FUJISIMA, YOSHIKO MAEDA, KAORU KAWAI AND HIROMI INOUE, YOSHINORI KUBOTA
1 Yokohama Motomachi Women's Clinic LUNA
2 Urogynaecology Center, Shonan Kamakura General Hospital
3 Urology, Yokohama City University Graduate School of Medicine

Hypothesis / aims of study
The TFS is a “minisling device for stress urinary incontinence and pelvic organ prolapse”. It is made with two polypropylene plastic anchors attached to an adjustable non-stretch monofilament polypropylene mesh tape. The TFS consists of the 4 prolonged anchors, its mode of action is like a grappling hook, and the one-way tensioning system. This has the unique quality of restoring laterally displaced ligaments and fascia to the correct anatomical position. The aim of this study was to assess the effectiveness after 1 year of the Tissue Fixation System (TFS) for repair of pelvic organ prolapse (POP) including the improvements of QoL.

Study design, materials and methods
We studied prospectively 54 POP operations performed on day surgery basis between October 2008 and February 2010. Average patient age was 67 years. This procedure can be done under local anesthesia with midazolam 5mg intravenously. First they took cervical ring TFS slings for restoration of the cardinal ligament, second TFS U-sling for paravaginal repair and finally USL TFS sling for restoration of the uterosacral ligament. Levels of POP were grade 2 (n=20)(37%), grade 3 (n=30)(55%), and grade 4 (n=4)(7%) by according to the ICS POPQ classification. Grade 2 was defined as the condition when the most distal portion (leading edge) of the prolapse was ≤ 1 cm proximal to or extends 1 cm through the plane of hymen (≥ - 1 cm, but ≤ + 1 cm).

Results
Follow up was performed at 1 year. We defined 2nd relapse as failure before 1 year. Of 54 cases, 47 were cured (87%) and 7 failed 13%). One younger patient needed emergency hospitalization for hematoma. Of the 7 failed cases, 5 were reoperated and cured using the TFS. We found 5 cases of erosion by tapes. We used Prolapse Quality of Life (P-QOL) and International Prostate Symptom Score (IPSS) as questionnaires before and after operation. We evaluated “QOL affected by POP” by P-QOL question (Q) at which point 1 is “not affected at all”, point 2 is “affected slightly”, point 3 is “affected considerably” and point 4 is “affected very much”. Furthermore we evaluated urinary QOL in which “pollakiuria” by P-QOL Q3, “urgency” by P-QOL Q4, “urge incontinence” by P-QOL Q5, “stress incontinence” by P-QOL Q6. In those questions, point 1 is “no symptom”, point 2 is “have no trouble”, point 3 is “have trouble a little”, point 4 is “have trouble considerably” and point 5 is “have trouble very much”. We evaluated “nocturia” by IPSS Q7 which is the number of awakening times for voiding.

The average score of P-QOL Q “QOL effected by POP” changed from 3.77±0.78 to. 2.44±0.61; of P-QOL Q3 “pollakiuria” changed from 3.29±1.02 to 2.72±0.79; of P-QOL Q4 “urgency” changed from 3.11±0.98 to 2.63±0.67; of P-QOL Q5 “urge incontinence” from 2.90±0.82 to 2.61±0.68; of P-QOL Q6 “stress urinary incontinence” changed from 3.21±0.99 to 2.81±0.79; of IPSS Q7 “nocturia” changed from 1.76±0.87to 1.56±0.59.

Interpretation of results
The cause of the hematoma which needed emergency hospitalization should be rich blood supply for uterus during menopause.

Concluding message
Day surgeries of POP by TFS are effective and safe operations for patients over 60 years old whose blood supply of uterus get few and improve the urinary QOL of those POP patients.

PROCEDURE SELECTION IN PELVIC ORGAN PROLAPSE SURGERY. SCIENCE, ART OR LUCK OF THE DRAW?

DAVID SHAKER
Consultant Gynaecological Surgeon, Hillcrest Private Hospital Rockhampton, Australia

Surgical procedures for treatment of uro vaginal prolapse are numerous. Failure and recurrence of prolapse drives the expansion of the available options for prolapse repair. However the bases for selection of any one or combination of the available procedures are not clear.

The presentation will concentrate on some of the important issues which could play significant role in the decision of the pelvic surgeon to select certain procedures for certain cases.

The issues discussed include: prevalence of different defects, impact of one defect on the other compartments, the impact of one procedure on the other compartments, does the cervix affect the impact of apical support reconstruction on the other compartments? What can we learn from early onset failure of prolapse surgery? Does the configuration of the used mesh affect the results? How do all these factors inform the process of procedure selection? This presentation is not meant to be a review of current literature, but rather represents mainly the author’s views and based on the author’s experience and clinical research.

SURGERY IN THE LONG-TERM MANAGEMENT OF OBSTETRIC ANAL SPHINTER INJURIES

TONY EYERS
Colorectal Surgeon, Macquarie University Hospital and Clinic, Sydney, Australia

Obstetric trauma rates highly as a cause of faecal incontinence managed by colorectal surgeons. We are rarely involved in immediate repairs following frank sphincter injuries – and I see no need for this to change. However we are often asked to perform delayed repairs and close associated rectovaginal fistulas. Good results are usually obtained after either an immediate or delayed repair, but experience has now shown that function gradually deteriorates over a ten-year time-frame. Pudendal neuropathy is an additional factor contributing to a poorer outcome. Recently sacral neuromodulation has shown encouraging results when used
THE NEXT LAYER OF ANATOMY

JOHN CARTMILL, DAVID BUTT
Australian School of Advanced Medicine and Centre for Language in Social Life, Macquarie University, Sydney, Australia

Anatomy is influenced by culture and technology. This was true in the sixteenth century when Vesalius called on the shipbuilding skills of the Venetians to create the University of Padova’s elegantly tiered gallery and it is true as we fuse imaging, audiovisual and live surgical feed with the most modern anatomy laboratories. Even the inventive anatomy of Galen had a wisdom and relevance to it that reflected the culture and supported the (limited) therapeutic needs of his time. Thought and language are tools as well and to put this in perspective it was only a few hundred years earlier that the Greeks had developed language to the extent that it would support even rudimentary logic. Language – the way we make meaning – is a technology just like any other. This paper acknowledges the collaboration between engineers and imaging that enabled the anatomy school at the Australian School of Advanced Medicine at Macquarie University. Collaboration with linguists has also been vitally important. Linguists study “meaning making” and the linguists I work with (David Butt and Alison Moore) consider surgery a supreme example of meaning making…this idea takes some getting used to as a surgeon but its worth considering. What we do changes things emphatically, makes a statement. Like a painting or a sculpture. And what limits our surgery other than our understanding of anatomy? Vesalius’ anatomy and physiology had its limitations and would not have enabled a liver transplant…but he wasn’t trying to do a liver transplant and his anatomy satisfied the cultural, scientific and therapeutic needs of the age. A hundred years later Harvey more successfully linked function to anatomical structure and since then, first with the technology of the microscope and then increasingly sophisticated technologies and entire new fields of enquiry anatomy has explored successively deeper layers – intracellular, genetic and molecular. All very useful but technology and our imaginations are taking surgery into territory that is no longer supported by classical or even so called surgical anatomy. Surgical anatomy is the anatomy of access and planes and biomechanical properties and the effects of age and disease and it is useful. However it is confined to the surface and beneath. But surgery is really developing in the layer outside the body. In part because of advances in instrumentation but also because of advances in teamwork, communication and cooperation.

I want to talk about this layer outside the body where this action takes place. We could call it a penumbra. As surgeons we might come to a challenging bit of pathology and for faecal incontinence, and the results appear to be equivalent whether the underling pathology includes an anatomical sphincter injury or not. As a result of this experience most colorectal surgeons would favour performing a surgical repair when a frank anal sphincter injury has occurred, but not repeat it later when the functional result deteriorates, preferring instead to move to sacral neuromodulation at that time. Faecal incontinence is best managed in an environment where patients have access to nurse consultants and biofeedback as well as the various surgical interventions available.

USING IMAGING TO UNDERSTAND HOW SLINGS WORK

LWIS CHAN
Concord Repatriation General Hospital, Sydney, Australia

Introduction
There is increasing use of transobturator slings in the treatment of male and female stress urinary incontinence. The aim of this study was to evaluate the technique and feasibility of ultrasound imaging in patients with synthetic transobturator slings and assess their potential mechanism of action.

Methods
Transperineal ultrasound was performed on 12 male patients who underwent AdVance transobturator male sling, 10 females who were continent following Monarc transobturator sling and 3 females who had voiding dysfunction following placement of suburethral sling. 2D Ultrasound examinations were conducted using a Sonosite M-Turbo ultrasound machine and C5-2 MHz transducer. X-plane imaging of the AdVance male slings was performed using Philips IU22 ultrasound machine. Patients were imaged at bladder volumes of over 150mls in supine and standing positions, at rest and on Valsalva. Imaging findings including bladder neck position, urethral mobility and position of the sling relative to the urethra on dynamic imaging were recorded.

Results
All 25 slings were well visualized on transperineal ultrasound. The Monarc slings were located at the level of the mid-urethra while AdVance slings were located at or above the inferior border of the pubic symphysis. Urethral mobility was demonstrated with Valsalva in both male and female patients and was more pronounced in females. During Valsalva, there was dynamic compression of the urethra from the Monarc sling in females who were continent but angulation/kinking of the urethra was observed only in patients who had voiding dysfunction due to sling obstruction. This was more evident in the standing position. In males with the AdVance sling there was less urethral mobility compared to females but dynamic compression of the urethra was also demonstrated with Valsalva and coughing.

Conclusions
Transperineal ultrasound is a good modality of imaging for demonstration of synthetic suburethral slings. Dynamic
UROGYNECOLOGY IN INDONESIA: THE CHANGE AND CHALLENGE

BUKI ISAN SANTOSO, JUNZAF
Jakarta, Indonesia

Indonesia is an archipelago located in the southeast of Asia along the equator. It comprises 17,000 islands (depending on who does the counting), Indonesia’s approximately 240.3 million people make it the world’s fourth-most populous nation, with slightly less male-dominant. Life expectancy at birth in 1999 was 60.8 for males and 65.3 for females. In 1995, the birthrate was 22.78 per 1,000 and the death rate 8.14 per 1,000, for a natural annual increase of 1.46 percent. The infant mortality rate was 57.3 per 1,000 live births. Indonesia has one hospital bed per 1,630 persons, and one physician per 6,570 persons.

Women’s health has evolved in the last two decades. The significant indicators reflecting the continuing of women’s health problems have also evolved from maternal mortality and infant mortality rate to the parameters on women’s quality of life. Women’s health problems are not only limited on the time of childbirth and biological factor. It has developed beyond the old perspective which includes women’s health of their lifetime span with the consideration of cultural, social and psychological factors as well as biological.

Indonesia is a developing country with major problems in the social, political, and economic areas. Most people still have a low-subsistence standard of living. Therefore, although there has been a remarkable improvement in women’s health, Indonesia still facing some significant problems. Reducing maternal mortality and child mortality are still considered to be two best keys of goals on women’s health problems in Indonesia; while improving women’s quality of life seems to be less noticed. Urogynecology problems seemed to be disregarded since the problems usually are not life-threatening. However, the small middle-and upper-class populations have a very good standard of life and the life expectancy is increasing with time. It is estimated that the country will join the developed countries in the near future. Thus, urogynecology which covers the quality of life for Indonesian women will have rapid breakthrough in a very short period of time.

By writing this paper, we would like to reveal the rapid change of urogynecology in Indonesia as well as our challenge to bring great quality of urogynecology services in our country. Urogynecology in Indonesia presented, including the real situation, education and training, as well as further studies and research.

PELVIC FLOOR RECONSTRUCTION USING CR-MESH (A.M.I.): PAST, PRESENT, FUTURE
EMANUELA MENTRANGELO
Ginecologia, Unit of Minimally Invasive Gynecology – Turin, Italy

Introduction

The high recurrence rate of pelvic organ prolapse after traditional pelvic reconstructive surgery has been estimated to be up to 30%. Thus, it has become increasingly important to improve surgical strategies to decrease the incidence of surgical failure and recurrent prolapse. Recently, the use of surgical mesh in pelvic floor surgery has become more and more popular. Mesh placement is usually performed using vaginal access. The mesh could be positioned and sutured over the fascial defect as an ‘inlay’, or the whole vagina could be surrounded by mesh. While general surgeons have had decades of experience using mesh in hernia surgery, the design and development of grafts in gynecologic procedures is still ongoing. In pelvic prolapse treatment, the new techniques in pelvic reconstructive surgery could be simplify as following:

- first generation (mesh (2000-2003): graft for simple fascial replacement, goal: fascial reinforcement – better results than fascial surgery, lack: failure in recovering upper and lateral supports;
- second generation (2003-2007): tension-free vaginal mesh techniques with procedural kits with lateral slings passing trough arcus tendineus for deep anterior support and trough ileo-coccigeus muscle or sacro-spinous ligament for deep posterior support, goal: ensure lateral support, lack: failure in recovering strong upper support;
- third generation (2007 – …): fixation of both the anterior and the posterior compartment to apical support (suspension the sacro-spinous ligament) using sutures, goal: ensure strong upper support; lack: invasiveness, too many trocar passages;
- new generation (2009 - …): further confirmation of the necessity of strong sacro-spinous ligament fixation, using anchors or slings, associated with trocar-less systems using a single-incision, goals: be less invasive as possible (trocarseless procedural kits) + ensure (strong?) upper support, lack: the upper support is not so strong (expecially using slings), the new procedural kits are enable to create a total pelvic floor repair.

The aims of this abstract are to describe a third generation total pelvic reconstructive procedure using CR-Mesh (A.M.I.), to present the results in women with pelvic prolapse stage III-IV in our first two years’ experience using this technique and to introduce a new pelvic floor repair procedure which combine the goals of the third generation of mesh (strong upper support and total repair) with the goals of the new generation (miniinvasive trocarless procedural kit).

Materials and Methods

Between 1st September 2009 and 31st August 2011, we proposed pelvic floor reconstruction (PFR) using CR-Mesh (A.M.I.) to all women who required surgical treatment for pelvic prolapse stage III-IV (POP-Q classification) and who had more than one risk factor for recurrence. The surgical technique suited the following concepts: 1. fixation of the anterior and of the posterior compartment to the De Lancey 1 Level I apical support (by bilateral suspension to the medial end of the sacro-spinous ligament); 2. recreation of the De Lancey Level II lateral support (using transobturator and trans-ileo-coccygeus slings); 3. recreation of the De Lancey Level III distal support (by recreating bladder neck support and by reinforcing perineal body using superficial slings).

Surgical technique in detail

- Anterior infiltration with 40-60 mls of dilute normal saline with adrenaline at a depth of 2-4 mm.
- Anterior full thickness vertical incision, extended distally to the level of the bladder neck and proximally to a point 2 cm below the cervix, and lateral dissection extended to the sulcus on each side and proximally towards the cervix.
– Posterior infiltration in a similar manner to the anterior vaginal wall.
– Posterior full thickness vertical incision, extended proximally to a point 1-2 cm below the cervix distally towards the perineum.
– Place a single central 2/0 monofilament polypropylene suture in the anterior and posterior cervix under the skin edge at the cervical end of each vaginal incision.
– Open the pararectal space extending the lateral dissection to the sulcus on each side: the ischial spine can then be felt clearly together with the arcus ligament above and the sacrospinous ligament below.
– Create the apical attachments using monofilament polypropylene sutures placed in position using I-stitch (A.M.I. suture instrument): two apical attachments are placed on each side in the medial posterior aspect of the sacrospinous ligament immediately contiguous to the sacrum/coccyx.
– Two of the four apical attachments (one on each side) are then passed through the cervix from back to front. Placement of posterior CR-mesh and pass the posterior cervical suture and both of the pre-positioned apical (medial sacrospinous) posterior attachment sutures through the edge of the mesh.
– Placement of the proximal translevator slings: make a small full thickness skin incision approximately 3 cm lateral and 3 cm posterior to the anus on each side and use the A.M.I. TVA tunneller to pass each sling through the ischiorectal fossa and through the levator muscle approximately 2 cm medial and inferior to the ischial spine.
– Anteriorly: open the paravesical space and reach the ischial spine, the arcus ligament and the sacrospinous ligament. Then the bladder neck is prepared by dissecting free the lateral supports of the upper urethra.
– Placement of anterior CR-mesh and pass the central anterior and both pairs of apical attachment sutures through the edge of the mesh.
– Placement of proximal transobturator slings: make a small vertical skin incision 1 cm above the ischial tuberosity on each side and use the A.M.I. Semi-Circular tunneller to pass each sling through the posterior aspect of the obturator foramen.
– Secure the upper vaginal attachments remembering that the four apical suspension sutures are not meant to pull the cervix up and attach it to the sacrospinous ligament. Rather, they are designed to replace the uterosacral ligament and suspend the apex from its’ normal anatomical origin.
– Placement of distal transobturator slings: make a skin incision at a point 1 cm medial to the skin fold at the level of the clitoris, cut the anterior CR-mesh in the midline to reach the bladder neck and use the TOA tunneller with an outside-in approach to pass both distal mesh extensions through the anterior aspect of the obturator foramen.
– Anterior vaginal skin closure.
– Placement of perineal slings: cut the posterior CR-mesh in the midline and use the TVA tunneler to pass both distal mesh extensions posteriorly through the perineum, around the anus and emerge from the same skin incision as the proximal translevator slings.
– Posterior vaginal skin closure.

Results
During the considered period of time, we performed 312 vaginal reconstructive surgery operations, of these 88 using the PFR technique with CR-mesh (A.M.I.):
– 53 PFR using two meshes (anterior + posterior) and conserving the uterus, in patients with uterine prolapse stage III-IV + cystocele stage III-IV + rectocele stage II-IV;
– 23 PFR using two meshes (anterior + posterior) in patients who previously underwent hysterectomy and who had vaginal vault prolapse stage III-IV with a complete eversion of the vagina;
– 5 PFR using only the anterior mesh and conserving the uterus, in patients with cystocele stage III-IV + hysteroccele stage II-IV and without rectocele;
– 4 PFR using only the posterior mesh in patients who previously underwent hysterectomy and who had vaginal vault prolapse with recto/enterocele stage III-IV and without cystocele;
– 2 PFR using only the posterior mesh and conserving the uterus, in patients with rectocele stage III-IV + hysterocele stage II-IV and without cystocele;
– 1 PFR using only the anterior mesh in patients who previously underwent hysterectomy and who had vaginal vault prolapse with cystocele stage III-IV anteriore and without recto/enterocele.

Intraoperative complications: bladder perforation occurred in three cases, all of them resolved maintaining catheter for 10 days.

Postoperative complications:
– 21 cases of urinary retention resolved with indwelling catheterism for one week;
– 6 cases of subperitoneal hematoma, spontaneously resolved in one month;
– 37 cases of perineal and lumbar-sacral pain (VAS > 6), temporarily resolved with ketorolac 20 mg/die and definitively resolved after 10-15 days;
– 18 cases of difficult defecation, all in the first 50 cases of the learning curve, all resolved in 2 months with dietary correction;
– 11 cases of stress urinary incontinence de novo: of these, 6 patients resolved in six months with perineal rehabilitation and 5 patients who underwent transobturator urethral suspension 6-9 months after the PFR operation.

Follow-up:
61 of the 88 patients were reviewed one year after surgery: none of them had recurrence of the prolapse (considering prolapse > stage I); no mesh exposure was observed; 9 patients had deep dyspareunia.

Conclusions
Anatomical and functional results, quality of life and sexual function questionnaires must be assessed with a long-term follow-up to confirm the effectiveness and safety of the CR-mesh procedure but, according to the peri-operative and short-term follow up results, pelvic floor reconstruction using CR-Mesh (A.M.I.) seems to be a safe technique to correct pelvic organ prolapsed stage III-IV.

In addition, for the benefit of the technique, today PFR could be performed using a particularly soft iso-elastic mesh: HexaPro-Mesh (AMI - Austria), which has a weight of 21 g/m2, less than other meshes used for the utero-vaginal prolapse, with a porosity of 93% and characteristic hexagonal pores that provide elasticity in all directions. This mesh is specifically designed to minimize fibrosis and retraction after surgery.

The PFR technique provides excellent results, confirmed at 1-year follow-up, and proves to be a safe solution for prolapse stage III and IV. However, this technique has two weaknesses: the invasiveness related to the multiple passage of trocars in the muscular structures of the pelvis and the dyspareunia associated with fibrosis and retraction. It is not
a retraction of the mesh, which is always soft even after one year, but of the crossing part between the slings and the mesh itself. To overcome these problems and in the wake of the new tendency to make prothetic interventions through a single vaginal incision and without the use of trocars, from the beginning of 2011 our group started to perform a new, less-invasive technique that could ensure the key points of PFR original intervention: the reconstitution of the three levels of suspension described by DeLancey, the solid apical support secured by the passage of sutures through the medi-
al part of sacrospinous ligament using I-Stitch and the iso-
elasticity of HexaPro-Mesh, with hexagonal shape and size that follow exactly the anatomical distances to be covered, so as to optimize the amount of mesh necessary for the cor-
rection of prolapse and without using any slings. For the moment, from 7th of March 2011 to 7th of
September 2011 we performed only 20 cases with this tech-
nique, which we have called “InGYNious”. This mini-inva-
sive technique, compared to the original PFR, seems to re-
duce the postoperative pain: in none of the 20 cases the pa-
tients had pain with VAS> 6. Of course long-term follow-
up is mandatory to reach conclusions, but we can say that the anatomical results at 1-month follow-up are exciting. We will start soon a prospective randomized study PFR with CR-mesh versus InGYNious to be able to scientifi-

cally validate our theories.

References

THE SURGICAL ANATOMY OF STRESS AND NON-STRESS NON-URGE URINARY INCONTINENCE
PETER PETROS
Sydney, Australia

The female urethra is closed by two distinct closure mechanisms, proximal and distal.
Proximal (“bladder neck”) closure mechanism. Two backward acting muscle forces stretch the proximal urethra backwards and downwards in a rotating motion around an intact pubourethral ligament (PUL) to close the urethra. This is the prime mechanism for control of urinary stress incontinence (USI), and it is restored by placement of a midurethral sling.

Distal (“hammock”) closure mechanism. The anterior portion of pubococcygeus muscle stretches the suburethral vagina (“hammock”) between PUL and the external ure-
thral ligament (EUL) to close the urethra from behind. Whereas this mechanism also plays some part in stress incontinence control, its main function is as a “sealing” mechanism. A lax EUL may lead to non-stress urine loss in patients who have been cured of USI. A diagnostic symp-
tom is a “bubble” of air escaping concomitant with urine loss. This problem is best addressed with a “hammock su-
ture” a Vicryl suture placed in the EUL, hammock on both sides, ending in the contralateral EUL, performed at the same time as any midurethral sling. A “hammock” suture was part of the original midurethral sling procedures per-
formed in the early 1990s with Ulf Ulmsten. Videos demonstrate:

A) the only test possible to definitely diagnose a lax PUL, a unilateral midurethral pressure test.

B) the midurethral tensioned minisling with EUL/ham-
mock repair. See also www.integraltheory.org

BOTOX- MORE THAN JUST A PRETTY FACE
PAUL DUGGAN
Adelaide, Australia

Neurotoxin produced by Clostridium botulinum is the most lethal substance known. Botulinum toxin is being in-
creasingly used in the management of overactive bladder and idiopathic and neuropathic detrusor overactivity (IDO and NDO). Intradetrusor injection of dilute solutions in an array pattern has been described with and without “trigone sparing” and with a variety of doses and commercial prepa-
ratios. In Australia Botulinum A toxin (Botox® – Allergan Inc Irvine CA), the only product available, is supplied in vials of 100U. 300U typically used in NDO has relatively high rates of long-term urinary retention and most units are using between 100-200U in IDO. It is assumed that there is a trade-off between effectiveness and risk of urinary reten-
tion in this dose range, but there are no large scale pub-
lished trials to determine optimal dose, optimal technique, timing for repeat injections, or long term outcomes. Some units restrict use to IDO and others will treat overactive bladder. Roughly a 60-70% response rate can be expected. Improvements in quality of life in responders are substan-
tial. Major impediments to its use include its unlicensed status and fear of prolonged urinary retention, which limits recruitment in trials and in clinical practice. Will patients who respond be willing to present regularly for re-injection in the long term? Death following therapeutic use of Botulinum toxin has been reported in adults and children but not to date following intradetrusor injection. Botulinum toxin may be suitable for patients who have failed to re-
C) the midurethral tensioned minisling with EUL/ham-
mock repair. See also www.integraltheory.org

DEVELOPING A NEW JOURNAL IN PELVIC MEDICINE: HISTORY AND FUTURE OF “PELVIPERINEOLOGY”
ENRICO BELLOCCO, GIUSEPPE DODD, BRUCE FARNSWORTH, MAUROREO SCELLA
1 Clinica Chirurgica, Università di Padova, Italy
2 Centre for Pelvic Reconstructive Surgery, Sydney Adventist Hospital, Australia,
3 CheironLabs - Cheiron Sistemi S.r.l., Padova, Italy

Introduction
A scientific journal is a living creature. It has a past and, hopefully, a future that has to be planned accurately due to the rapid evolution of science and of the media system. Going briefly through the history of the journal Pelvi-
perineology enables us to reflect on changes in our profes-
sion over the last thirty years. Since the eighties of the last century there has been a flourishing of new surgical “sub-
specialties” or “superspecialties” such as urology, urogynaecology and colourctology, a branch of general surgery and gas-
troenterology. Such a subdivision or addition apparently is a logical and natural response to the increasing complexity of the scientific and clinical approach in any field of medi-
cine. Opposition to this trend comes however from the clinical academic authorities and from the managers of the “mother” societies of urology, gynaecology and general surgery. In both cases they fear the risk of an over-fragmen-
tation of resources and of competences. This centrifuge trend however seems justified by the limits of the individual knowledge (“specialist do it better”), and by medico-legal
intrusions becoming more and more pressing in our practice of medicine and surgery.

Birth and first steps of the Rivista Italiana di Colon-Proctologia (vol. 1-15)

In 1982 was founded in Padova the Rivista Italiana di Colon-Proctologia, initially four-monthly, then quarterly, organ of the Gruppo Italiano di Proctologia (GIP). In 1985 the surgeons of the GIP and the gastroenterologists of the Gruppo Italiano per lo Studio del Colon e Retto joined to coordinate their scientific endeavours. In 1990 the journal published the proceedings of the 1st International Symposium on Perineology, held in Venice. The neologism “perineology” was invented for the occasion reflecting a new unitary and integrated view of the anatomy, physiology and pathology of the pelvic floor. This was the first seed of what in the future would have been the multidisciplinary orientation of the journal. In 1994 the Rivista became the official organ of the Società Italiana di Colon-Proctologia.

The Italian Journal of Coloproctology (vol. 16-22) and the Pelvic Floor Digest

Between 1997 and 2002 an ambitious leap in quality was attempted, making the journal bilingual. However being a journal based exclusively on national Italian contributions and not indexed, the result was not satisfactory, and in 2003 the bilingual journal was abandoned and became once again the Rivista Italiana di Colon-Proctologia.

In the same year the Pelvic Floor Digest was commenced as a section in the journal. This is an educational survey which monitors 200 international journals and provides summaries of selected abstracts to help develop a multidisciplinary culture amongst the specialists working in this area. The website www.pelvicfloordigest.org publishes online the abstracts divided in ten interdisciplinary sections: forum/general, functional anatomy, diagnosis, prolapses, retentions, incontinences, pain, fistulae, behaviour/psychology/sexology, miscellaneous. At present the website is offline as it is undergoing a major upgrade which will allow the copy-editors to publish and comment online much faster the most interesting abstracts, and the readers to classify them more precisely in a sort of “social” tagging mechanism. The readers registered to the site will be able to comment on the selected abstracts making connections among them and with other contents in the web. The new site is being tested (beta test) and will probably be available in 2012.

Pelviperineologia (vol. 23-25)

In 2004 the name of the journal changed into “Pelviperineologia”. The Società Interdisciplinare del Pavimento Pelvico founded in 1996 by an urologist, W Artibani then the Secretary of ICS, a geriatrician, F Benvenuti, P Di Benedetto, rehabilitation specialist, G Dodi, colorectal surgeon, and R Milani gynaecologist, had the journal as its official organ. The aim of this society was the proposal and validation of a sort of TNM of the pelvic floor dysfunctions: the IPGH (Incontinence, Pelvic Floor, General factor, Handicap) is a severity index where, with few scored items, the pelvic floor is “easily” defined in a unitary way.

Pelviperineology (vol. 26-30…)

In 2006 Bruce Farnsworth supported by the Australasian Association of Vaginal & Incontinence Surgeons (AAVIS) founded in 1996, suggested to bring to a wider audience the journal naming it Pelviperineology. In the same year Springer with a significant similarity in title and timing edited the French journal Pelvi-périnéologie. AAVIS during the annual congress in Vienna in September 2010 voted to change its name to the International Society for Pelviperineology (ISPP), its website being www.pelviperineology.com, and invited members of other likeminded groups, such as the Integrated Pelvis Group, International Pelvic Floor Dysfunction Society, Pelvic Reconstructive Surgery and Incontinence Association (Turkey), Perhimpunan Disfungsi Dasar Punggai Wanita Indonesia, Romanian Uro-Gyn Society to join together and form a truly international and multidisciplinary society.

“Pelviperineologia” in Italy continues to be the local edition of the journal, printed inside the English version. This Italian insert has its own Cooperation Board and is the official journal of the Società Italiana di Pelvi-perineologia, Urologia Femminile e Funzionale (SIPUF), and of the Integrated Pelvis Group (IPG), the latter having mainly an organizing role. It is desirable that in other countries the scientific societies involved in the same field follow this experience publishing their national editions in a total economical and scientific autonomy but with an interchange of experiences and contents. This project was achieved in a recent past in Australia. As a part of the business model it should be noted that the cooperation in advertising in both the international and local editions makes the pages of the journal more interesting to the advertisers, and improves its economic viability. The editorial choices and policies must be independent from the advertising.

“Pelviperineology” and “Pelviperineologia” are edited in paper (1500-4000 copies each issue depending on the need of the sponsors for promotional purposes, or on the publication of meetings proceedings), and online as free-access journals (www.pelviperineology.org and www.pelviperineologia.it). Both sites had over 100,000 visits in 2010, and from the present data in 2011 it is expected a 10% increase in number of visits and visualized pages.

The paper versions are printed by “Tipografia Veneta” in Padova, whereas the online journal is edited by Cheiron Co. and M Spella MD. Owner of the journal is G Dodi since 1990. The financial support for paper and online versions comes from advertisements. The last contribution from a scientific society has been from AAVIS in 2009. The total income in 2010 has reached thirty thousand euros, about 70% being paid to the printer. The budget for computerisation needs to be increased in view of the future programs. In order to reduce the costs of printing and to improve the web diffusion, nowadays a priority, since 2011 those who want to receive all issues are requested a subscription to IPG (subscriptions@pelviperineology.org). The fee is € 25.00 for Italy and € 30.00 for overseas countries. These numbers are obviously small being the journal free access online.

The Editorial Board is made of two Chief Editors, G Dodi and B Farnsworth, an Associate Joint Managing Editor, F Wagenlehner, two Co-Editors, N Lemos and A Sivaslioglu, and 26 members from 16 different countries.

Pelviperineology can be defined as an open-access journal publishing original articles on scientific, clinical and experimental topics on physiology and pathology of the pelvic floor in urological, gynaecological and colorectal fields. It has a multidisciplinary and interdisciplinary perspective, it is open to different points of view, and pluralistic in its nature. Pelviperineology unconditionally agrees with the ethic principles of the World Association of Medical Editors (WAME)

“Isudnitt”

To face the challenge of an “open access” journal without any costs for the authors, Cheiron Sistemi S.r.l. set up a
project of software entirely online, called “Isubmit” able to reduce the times and costs of review, print and online publication of the journal. The system will allow the authors to submit their articles to the journals being constantly informed during all the review process. Aim of the software is to make easy all the procedures, from the article submission, stating the acceptance date using a time marker legal in Italy. It keeps updated the contacts with the referees, and tries to simplify the reviewing process itself. This software can greatly reduce (to approximately 30 days) the time of response to an article submission. If the article is accepted the software sends automatically the text and other added materials (figures, tables, etc) to the printer for the paper version and creates the preliminary version to be published online. The system will also present automatically the issue of the journal to PubMed Central in the requested format (xml) to allow an evaluation for acceptance and indexation. Within the end of 2011 it will be possible for the authors to submit articles directly to the Isubmit system.

**Conclusion**

Many years ago a challenge was accepted of giving through a small journal an instrument of communication to all those in Italy interested in an evolving medical and surgical speciality, colorectal surgery, to share useful information and to introduce readers to new concepts. The commitment not to miss any quarterly issue and to present interesting articles has sometime required considerable effort, but has always been met.

The challenge is now harder and the mission more difficult, the journal having become really international. Topics treated are very interesting from several points of view: medical, scientific, educational, human, moral, and, last but not to be neglected, commercial.

Pelviperineology’s life today depends on several commitments strictly connected: to keep the international multidisciplinary opening planned in 2006, to achieve Pub-Med indexation and obtain an impact factor through computerization and obviously a good quality of articles, and strive for continuing innovation. The Pelvic Floor Digest, Isubmit, planning frequent reviews for non specialists, underline the need to increase the diffusion and popularity of the journal.

**Acknowledgement**

We acknowledge the help that Professor Peter Petros has given and gives for the development of the multidisciplinary journal, where we believe he can see the ideal, complementary voice of his Integral Theory of the pelvic floor.

---

**ERRATA CORRIGE**

The Authors of the article “Paravaginal defects and stress urinary incontinence” published in the September 2011 issue of Pelviperineology (pag. 84-88), are Eckhard Petri and Kiran Ashor. The correct names of the Authors in the cover are E. PETRI, K. ASHOK. Our apologies to Professor Petri and Dr. Ashok for the mistake.