The 49th annual meeting of the International Continence Society (ICS) was held in Gothenburg, Sweden’s second largest city, and the homebase of much research into Hunner lesion over a number of decades. This multidisciplinary conference was attended by 1,995 delegates including urologists, gynaecologists, neurologists, physiotherapists, nurses, basic scientists and patient advocates.

In recent years, the ICS has developed an increasing interest in chronic pelvic pain, including IC/BPS, and now has a School of Pelvic Pain, Director Kristene Whitmore MD, as part of the ICS Institute which is aimed at research and education. This is good news for the IC/BPS world which has tended to be rather side-lined in recent years by many urology societies.

This year’s ICS conference programme included many podium presented research abstracts on IC/BPS, even prize-winners, along with several posters! Three workshops either focused on or included chronic pelvic pain and IC/BPS, while there was a one-hour Round Table Session on Hunner Lesion. All the sessions related to the field of IC/BPS were very well-attended. This is reassuring for the future.

Topics in our field discussed during the conference included: splitting off Hunner lesion from non-lesion at least for research and treatment purposes, phenotyping for better treatment, comorbidities, a multidisciplinary whole-body approach, the emotional and psychological impact of this bladder disease, the need for empathy and support, the continuing problems of non-reimbursement of treatments, while researchers and basic scientists are hard at work. A category prize was awarded to Jiang et al. from Taiwan for their abstract on potential urinary biomarkers to diagnose interstitial cystitis and overactive bladder. Wang et al., also from Taiwan, received a category prize for their study on patients treated with repeat intravesical platelet rich plasma injections.

**Round Table Discussion 5: WHY YOU NEED TO BE AN EXPERT IN HUNNER DISEASE**

Speakers: Ralph Peeker (Chair), Magnus Fall, Yr Logadottir, Christopher Payne.

This well-attended session included three speakers from host country Sweden, all well-known for their research in the field of Hunner Lesion Disease, together with Christopher Payne IC/BPS expert from the USA.

It was emphasized throughout this session that Hunner Lesion Disease is a well-defined condition which can be treated effectively once diagnosed.

Discussing the oncologic approach to Hunner Lesion, Christopher Payne noted that Hunner Lesion disease is primarily a surgical disease (endoscopic surgery) and that adjuvant medical therapy is rarely effective with active, untreated lesions. He suggested that ideal times to begin adjuvant therapy are:
if the patient is never completely asymptomatic following endoscopic surgery, at the first sign of relapse from remission or immediately post-op in high-risk patients.

Magnus Fall looked at whether Hunner Lesions can be detected at plain (office) cystoscopy and reported that yes, in the majority of cases it can, and the diagnosis can be supported if there is pain when a lesion is touched with the cystoscope. Nevertheless, he recommended cystoscopy with bladder distension so as not to miss distinctive changes and also to note reactions to distension. He suggested starting with cystourethroscopy under local anaesthesia, when you should look for signs of confusable diseases, any inflammatory changes in the bladder or urethra, not forgetting any local tenderness when examining the vulva, bladder, urethra, prostate and pelvic floor. Bladder distension should be performed under general or spinal anaesthesia, with superimposed pressure of 80 cm H₂O, digital obstruction of leakage, filling should be stopped when no fluid enters (dripping chamber), then rinse bladder, re-examine. Professor Fall said he finds a rigid cystoscope preferable. He emphasized that endoscopy is so far the method of choice to diagnose Hunner Lesions. He noted that multiple superficial cracks represent urothelial fragility. These may not necessarily be Hunner Lesions but maybe another specific phenotype. Typical findings include a central scar with coagulum or fibrin deposit, radiating vascular injection, waterfall bleeding provoked by distension, rupture of lesion during distension, post-distension oedema and decreasing bladder capacity.

Ralph Peeker looked at the secrets of Hunner Lesion Disease as exposed under the microscope. This is primarily to exclude malignancy or other possible diagnoses such as: carcinoma/carcinoma in situ, eosinophilic cystitis, tuberculous cystitis, enteric metaplasia / cystitis glandularis / squamous cell metaplasia / nephrogenic metaplasia. He noted that some metaplastic conditions have malignant counterparts. He also emphasized that biopsy retrieval and histopathological examination allow for a more precise diagnosis of bladder pain syndrome, and may even open up a possibility for subtyping, as well as identify Hunner Lesion Disease.

Yr Logadottir focused on treatment of Hunner Lesions which she summarized as: oral medication, bladder instillations, medication and other interventions, neuromodulation, transurethral interventions, open/major surgical management. Oral drugs are aimed at stabilising the urothelium or GAG-layer, such as pentosan polysulphate sodium (PPS) and also hydroxyzine. Other drugs that can be tried include amitriptyline for pain, anti-inflammatory drugs (steroids), immunosuppressants and nitric oxide synthase (NOS) inhibitors. Intravesical treatment includes dimethyl sulfoxide (DMSO), PPS, hyaluronic acid and/or chondroitin sulphate, lidocaine. Botulinum toxin. She strongly advised against using Bacillus Calmette-Guerin (BCG). Transurethral interventions include fulguration of lesions, conservative surgery with complete transurethral resection or coagulation of lesions. Alternatively, use of the Nd:YAG laser. Open/major surgery may comprise simple urinary diversion, reconstructive surgery with continent urinary diversion, or reconstructive surgery with supra-trigonal cystectomy and ileo-cystoplasty.

Workshop 10: RETHINKING PELVIC PAIN

Looking at the current lack of progress in the field of IC/BPS, Christopher Payne asked: “Where did we go wrong?” It started with attractive theories which then became universally adopted and taught without evaluation and then began to lead a life of their own, taking research into wrong directions. What we do know today, however, is that Hunner Lesion is a unique, specific disease. Phenotyping of IC/BPS is urgently needed to untangle the mess.
Elise De looked at the differential diagnosis of pelvic pain, noting that the pelvic organs communicate, pain is difficult to pinpoint, differential is broad and pelvic pain is often multifactorial. She said that patients with pelvic pain can be effectively helped. Referral systems exist for more complex patients.

Charles Argoff, Professor of Neurology, gave an interesting presentation on “Big News in Small Fiber Neuropathies”. Peripheral neuropathy, he said, is experienced by approximately 40 million people in the USA. Many peripheral neuropathies, however, are mixed neuropathies with both large fiber and small fiber involvement. Increasingly recognized is the specific involvement of small myelinated or unmyelinated fibers, e.g. small fiber neuropathies (SFN). Multiple medical conditions are associated with SFN including many considered common. The mechanism(s) of SFN are not completely understood and may vary depending on the individual/specific associated disorder. Recognizing SFN and its existence in perhaps more conditions than previously recognised may lead to improved treatment approaches.

Jeanette Potts took a new look at prostatitis, while Elise De spoke on assembling a multidisciplinary team and using a treatment map

**Workshop 17: CURRENT STATE OF EVALUATION & MANAGEMENT OF LUTS IN WOMEN**

Speakers: Roger Dmochowski (Workshop chair), Ömer Bayrak, William Reynolds, Rahmi Onur, Angie Rantell

This workshop on LUTS in women also included a presentation on advances in bladder pain syndrome by Professor Rahmi Onur from Istanbul with an overview of guidelines, diagnosis and treatment.

**Workshop 27: CHRONIC PELVIC PAIN & SEXUAL DYSFUNCTION**

Speakers: Kristene E Whitmore (Workshop Chair), Mauro Cervigni, Karolynn Echols, Jane M Meijlink

Workshop 27 was organised by the ICS Institute’s School of Pelvic Pain and provided an overview of chronic pelvic pain (CPP) and a complex of syndromes (lower urinary tract, genital pain, gastrointestinal pain, musculoskeletal pain, neurological, psychological, and sexual).

Mauro Cervigni from Italy emphasised that CPP syndromes require a multidisciplinary approach to evaluation and treatment. Given its complex nature with various pain generators, CPP may also be the result of central sensitization in some patients. Healthcare providers should have a thorough understanding of the various causes of CPP and be able to counsel patients on a multimodal approach to treatment.

Kristene Whitmore, workshop chair and chair of the ICS Pelvic Pain School, explained that chronic pelvic pain is potentially multifactorial in origin and a systematic approach is necessary when evaluating the patient. A detailed history is essential including any relevant medical comorbidities, laboratory results, imaging, and prior surgical procedures. A thorough physical examination is crucial and should include the abdomen, back, and pelvis in standing, supine, and lithotomy positions to evaluate the skin, muscles, neurologic response, and internal organs. Chronic pelvic pain may lead to dyspareunia or sexual dysfunction with psychological implications for the patient. The patient and partner may benefit from counselling.

Karolynn Echols looked at an integrative approach with complementary and alternative medicine and also emphasised that management of these conditions requires a multidisciplinary approach in most cases. Integrative Medicine (IM) is the scope of medical practice that considers the patient as a whole: mind, body, and soul, community and way of life. It utilizes all appropriate evidence-based resources and therapeutic options: conventional and complimentary alternative medicine (CAM). Diet and
lifestyle modifications in addition to physical therapy, biofeedback, medications, surgery and integrative medicine modalities such as manual medicine, nutriceuticals, yoga, acupuncture, aromatherapy and energy medicine can be used alone or in combination to relieve symptoms and should be individualized after proper evaluation and diagnosis(es).

A patient perspective was presented by Jane Meijlink, chair of the International Painful Bladder Foundation, who also looked at a few unresolved issues in the field of IC/BPS and Hunner Lesion, emphasising that these are among the most unpleasant forms of chronic pelvic pain with profound consequences for the patient, including a frequent or even persistent need to urinate day and night, an overwhelming, urgent need to find a toilet, a distressing impact on sexual function, quality of life and work, but also a strong emotional and psychological impact on the patient. She suggested that the approach to this condition should not be quite so totally focused on pain to the exclusion of other key symptoms such as urgency and frequency, which may be of far more concern and bother to some patients. She drew attention to the fact that many IC/BPS patients also have distressing urethral pain which has been sadly neglected in recent years in women.

Night-time frequency, which includes being unable to fall asleep, sometimes for hours, due to the bladder symptoms and disturbed patterns of sleep (and lack of deep sleep) due to repeatedly waking with bladder pain and a need to urinate, can have debilitating physical and psychological consequences on the patient. And this impact should always be borne in mind when treating these patients, while remembering of course that chronic fatigue can have many other causes, especially in patients with comorbidities.

In some IC patients, urgency is a major problem for the patient’s quality of life. She also emphasised that the urgency typically experienced by patients with IC/BPS should not be confused with the sudden urgency of OAB/urgency incontinence. They are quite different, but there does seem to be a lot of misunderstanding today. Jane Meijlink recommended reintroducing the term “sensory urgency”, at least for the sake of the patients, since a frequent + urgent need to void is a disability, and if properly documented may qualify these patients for disability benefits, such as disabled parking permits. It’s practical things like that which are so important to reduce a patient’s anxiety and stress. Sensory urgency is really needed to ensure that the symptoms of the real patients are not continually being misrepresented, and very importantly that research and drug development are based on the real-life disease and symptoms. And this has not always been the case in the past two decades and may have impeded progress in the field of research & drug development and therefore treatment for the patient.

Meaningful phenotyping is now urgently needed for both non-lesion and lesion disease because lesions may potentially also have multiple causes and manifestations. This phenotyping approach may help to pinpoint the best treatment per patient and reduce the current chaotic trial and error situation which is so catastrophic for the patient. Furthermore, the general opinion today is that lesions should preferably be split off as a separate entity, at least for research and treatment purposes.

Jane Meijlink also mentioned that treating the pain alone may not necessarily improve the urgency and frequency in all patients. There has definitely been some misunderstanding about this.

On the ongoing issue of non-reimbursement of therapy, she once again stressed that the best treatment in the world is of little use if patients have no access to it due to refusal by health authorities to approve or reimburse many treatments for IC/BPS. Patients are being denied the treatment which they need to give them quality of life and the ability to participate in society. It is not acceptable to expect sick patients to have to go to court to challenge these decisions or for small patient support
groups to be forced to use their limited resources in battling all-powerful authorities. Fortunately, urologists in some countries are now beginning to work hand in hand with the support groups in this regard. However, she felt that international urology societies should also be lending a helping hand here, because the reasons for non-reimbursement cannot be solved by either the patients or the support groups. The solutions lie with the medical research world which must now produce better scientific studies acceptable to the relevant authorities and convince them to approve and reimburse the treatments. A further reimbursement problem in some countries lies in the terminology changes which were made in the previous decade without ever considering the potential impact on the patient in our bureaucratic and electronic world.

**SOA 2 URINARY MICROBIOME**  
**Speaker:** Linda Brubaker  
The recent discovery of the urobiome has stimulated research into a wide variety of urinary tract conditions, including urinary incontinence, overactive bladder and urinary tract infections. Although characteristics of this microbial niche are not yet fully understood, it is clear that the urobiome has bioregulatory functions. This presentation reviewed current understanding of the urobiome and highlighted key research initiatives.

**ABSTRACTS PRESENTED AT ICS 2019 IN THE FIELD OF IC/BPS AND CHRONIC PELVIC PAIN**

**#22 DISTINCT URINE MARKERS IN PATIENTS WITH INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME WITH OR WITHOUT HUNNER Lesion**  
*Furuta A, Igarashi T, Egawa S, Suzuki Y, Yoshimura N.*

**#191 POTENTIAL URINARY BIOMARKERS TO DIAGNOSIS INTERSTITIAL CYSTITIS AND OVERACTIVE BLADDER**  
**PRIZE AWARD: Best in Category Prize - Female Lower Urinary Tract Symptoms (LUTS) / Voiding Dysfunction**  
*Jiang Y, Jhang J, Lee P, Kuo H.*

**#195 FAVORABLE PAIN CONTROL AND INTRAVESICAL FINDINGS AFTER LONG-TERM DIETARY MANIPULATION FOR FEMALE HUNNER TYPE INTERSTITIAL CYSTITIS PATIENTS.**  
*Oh-oka H*

**#440 THE ROLE OF INTERSTITIAL CELLS REGENERATION FUNCTION IN THE BLADDER OF INTERSTITIAL CYSTITIS AND BLADDER PAIN SYNDROME AND RECURRENT URINARY TRACT INFECTION**  
*Wang H, Jhang J, Kuo H.*

**#441 SENSITISATION OF HIGH THRESHOLD STRETCH-SENSITIVE AFFERENTS IN ZYMOSAN-INDUCED CYSTITIS IN GUINEA PIGS**  
*Zagorodnyuk V, Keightley L, Brookes S, Spencer N, Nicholas S.*

**#442 EARLY LIFE STRESSFUL EVENTS INDUCE CHRONIC BLADDER PAIN IN ADULTHOOD – INVOLVEMENT OF TRPV1.**  
*Matos R, Cruz F, Charrua A.*

**#443 ESTABLISHMENT AND CHARACTERIZATION OF A CHRONIC MOUSE MODEL OF BLADDER PAIN SYNDROME/INTERSTITIAL CYSTITIS (BPS/IC) USING REPEATED INTRAVESICAL INSTILLATION OF A MIXTURE OF HYALURONIDASE AND POTASSIUM CHLORIDE**

#444 PSYCHOLOGICAL STRESS INDUCED BY WATER AVOIDANCE STRESS INCREASES UROTHELIAL PERMEABILITY AND BLADDER PAIN SENSATION IN RATS

#445 PUDENDAL NERVE PULSED RADIO FREQUENCY ABLATION UNDER NEUROPHYSIOLOGICAL GUIDE: A NOVEL MINIMALLY INVASIVE TECHNIQUE FOR TREATING CHRONIC PELVIC PAIN
Cappellano F, Cocco A, Cristaldi M, Santiago C, Martinez R.

#446 BLADDER PAIN CAUSED BY AFTER CONTRACTIONS SUCCESSFULLY TREATED WITH SACRAL NEUROMODULATION

#447 THE EFFECTS OF PHYSICAL THERAPY INTERVENTION ON PAIN AND URINARY SYMPTOMS IN WOMEN WITH BLADDER PAIN SYNDROME: A RANDOMIZED CONTROLLED TRIAL

#448 THE ENTRAMI TECHNIQUE FOR NEUROLYSIS: A MINIMALLY INVASIVE, ENDOSCOPIC TRANSGLUTEAL PROCEDURE FOR PUDENDAL NERVE AND INFERIOR CLUNEAL NERVE NEUROLYSIS IN CASE OF ENTRAPMENT: FEASIBILITY STUDY AND PRELIMINARY DATA.
Jottard K, Bruyninx L., De Wachter S.

#449 THERAPEUTIC EFFECTS AND CHANGES OF URINE CYTOKINES, FUNCTIONAL PROTEINS AND GROWTH FACTORS IN INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME(IC/BPS) PATIENTS TREATED WITH REPEAT INTRAVESICAL PLATELET RICH PLASMA INJECTIONS
PRIZE AWARD: Best in Category Prize - Pelvic Pain Syndromes / Sexual Dysfunction
Wang H, Kuo Y, Jiang Y, Yu W, Kuo H.

#450 RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED, MULTICENTER CLINICAL STUDY OF THE EFFICACY AND SAFETY OF INTRAVESICAL INSTILLATION OF KRP-116D (50% DIMETHYL SULFOXIDE) FOR INTERSTITIAL CYSTITIS/BLADDER PAIN SYNDROME IN JAPANESE SUBJECTS.
Yoshimura N, Oohinata A, Morita Y, Ueda T.

#451 FACTORS AFFECTING THE PERIOD BETWEEN THE FIRST AND SECOND HYDRODISTENSION IN FEMALES WITH PAINFUL BLADDER SYNDROME AND INTERSTITIAL CYSTITIS

# 503 LOCAL TESTOSTERONE THERAPY FOR PAIN AND DISCOMFORT AROUND THE URETHRAL MEATUS AFTER TREATMENT OF GENITOURINARY SYNDROME OF MENOPAUSE (GSM) AND BLADDER PAIN SYNDROME(BPS).
Sekiguchi Y.

# 535 CHARACTERISTICS OF LOWER URINARY TRACT SYMPTOMS IN THE WOMEN WITH URETHRAL PAIN
# 536 A CASE-CROSSOVER ANALYSIS OF WEATHER AS A UROLOGIC CHRONIC PELVIC PAIN SYNDROME FLARE TRIGGER IN THE MULTIDISCIPLINARY APPROACH TO THE STUDY OF CHRONIC PELVIC PAIN (MAPP) RESEARCH NETWORK.

# 537 A CASE-CROSSOVER ANALYSIS OF POLLEN AS A UROLOGIC CHRONIC PELVIC PAIN SYNDROME FLARE TRIGGER IN THE MULTIDISCIPLINARY APPROACH TO THE STUDY OF CHRONIC PELVIC PAIN (MAPP) RESEARCH NETWORK

#539 A STUDY TO EVALUATE THE EFFICIENCY OF TRANS-PERINEAL TRIGGER POINT DRY NEEDLING COMBINED WITH MANUAL THERAPY AS A TREATMENT FOR CHRONIC PELVIC PAIN: AN OPEN LABEL TRIAL.
Wiseman S, O’Sullivan S, O’Sullivan O, Barry E.

Non Discussion
# 779 PELVIC PAIN PATIENTS DEMONSTRATE GREATER CATASTROPHIZATION AS THE NUMBER OF PAIN COMORBIDITIES INCREASES.
Chen A, Argoff C, Crosby E, De E.

# 790 PELVIC FLOOR DYSFUNCTIONS IN WOMEN WITH FIBROMYALGIA: AN INTEGRATIVE LITERATURE REVIEW
Sathler T, Piccini A, Teixeira L, Monteiro S, Riccetto C, Tulha A, Botelho S.

# 799 BLADDER PAIN SYNDROME: WHAT TO CONSIDER AS A CRITERION FOR THE EFFECTIVENESS OF TREATMENT?
Ignashov Y, Kuzmin I, Slesarevskaya M, Al-Shukri S.

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