

# **A REVIEW OF IC/PBS PRESENTATIONS AT THE EUROPEAN ASSOCIATION OF UROLOGY (EAU) 25<sup>TH</sup> ANNIVERSARY EAU CONGRESS**

Barcelona, Spain - 16-20 April 2010

*Reviewer: Jane Meijlink*

## **ICELANDIC VOLCANO DRAMA AT EAU CONGRESS IN BARCELONA**

While the 25th anniversary congress of the EAU was planned to be a special occasion, nobody could have anticipated that it would be quite so dramatic! The volcanic eruption in Iceland led to half the delegates being unable to attend, while the other half was faced with the problem of getting home again. With planes cancelled and trains full, people aiming for similar destinations were grouping together to hire cars and buses. A main topic of conversation was how you were going to get home! Since many speakers and ESU course presenters had not been able to make it to Barcelona, this situation also led to a great deal of improvisation being necessary throughout the congress, with multi-tasking by those who did make it to Spain. According to EAU General Secretary Per Andersson, this congress will go down in history as one of the most memorable in EAU congress history and certainly tested everyone's ingenuity to the fullest.

## **IC/PBS POSTER PRESENTATION: PAINFUL BLADDER AND BEYOND**

*Chaired by M. Porena, MD.*

Due to the volcanic eruption affecting travel, not all of the abstracts in this session could be presented in person. We have, however, included all the session abstracts in this review.

Abstract #637

### **OPTICAL COHERENCE TOMOGRAPHY IN PATIENTS WITH BLADDER PAIN SYNDROME/INTERSTITIAL CYSTITIS: PRELIMINARY RESULTS**

*Zaitcev A, Matcaev AB, Yudovskiy SO, Kasyan GR, Gelikonov VM, Pushkar DY*

This Russian study presented preliminary information on a non-invasive, realtime, microstructural imaging system known as optical coherence tomography (OCT) that uses near-infrared light for a point analysis of the bladder-wall microstructure and can distinguish structural changes in the bladder wall. The ultimate aim would be for OCT potentially to replace biopsies. OCT enables urothelium, lamina propria, and muscularis propria to be distinguished. OCT has also been tested in Russia for diagnosis of urinary bladder cancer since it allows imaging of tissue structure during cystoscopy. The purpose of this preliminary study in 21 women with Hunner's lesion was to evaluate the validity of OCT in diagnosing bladder lesions in PBS/IC patients. The procedure used was cystoscopy + hydrodistension under general anaesthesia, then scanning for lesions using OCT, followed by biopsy of the lesions found. In all

the cases, OCT made it possible to visualize and determine the areas of bladder lesions, corresponding to the results of bladder biopsy. While providing information about the depth and character of inflammatory changes in Hunner's lesions, this method also allows bladder cancer or other specific bladder diseases to be ruled out. While the preliminary results are promising, more research is needed before this technique can be implemented in the management of IC patients.

Abstract # 638

**EXPRESSION LEVEL OF CXCL10 PEPTIDE IN BLADDER UROTHELIUM AND URINE AS POSSIBLE BIOMARKERS FOR DIAGNOSIS OF ULCERATIVE INTERSTITIAL CYSTITIS**

*Imamura T, Igawa Y, Ogawa T, Homma T, Seki S, Ishizuka O, Satoshi A, Homma Y, Nishizawa O.*

This study from Japan also looked at ulcerative IC/Hunner's lesion, investigating the expression level of CXCL10 peptide, which was one of the CXCR3-binding chemokins previously studied, in bladder urothelium and urine of ulcerative and non-ulcerative IC patients. The purpose was to determine whether the expression level of CXCL10 peptide in the bladder urothelium and urine could potentially be used as biomarkers for diagnosis of ulcerative IC. It was concluded that the expression level of CXCL10 peptide in the bladder mucosa as well as in the urine could potentially be biomarkers for the clinical diagnosis of ulcerative IC.

Abstract # 639

**EFFICACY AND SAFETY OF TANEZUMAB FOR THE TREATMENT OF INTERSTITIAL CYSTITIS**

*Moldwin RM, Evans RJ, Cossons N, Darekar A, Scholfield D, Mills I.*

This USA study was a randomized, double-blind, placebo-controlled, phase 2 trial in patients with moderate to severe IC to investigate the use of tanezumab, a humanized monoclonal anti-nerve growth factor antibody, for the treatment of interstitial cystitis. The treated patients (34 tanezumab, 30 placebo) were 89% female with an age range of 21–85 years.

The results showed that single-dose tanezumab significantly reduced average daily pain score versus placebo and also improved pain and urgency, but without improving the O'Leary-Sant Interstitial Cystitis Symptom Index scores. The most common side effects reported were headache (20.6%) and paraesthesia (17.6%). Some patients experienced short-lived peripheral neuropathy (patients with existing peripheral neuropathy were excluded from the study).

Abstract #640

**TACROLIMUS IN THE TREATMENT OF BLADDER PAIN SYNDROME/ INTERSTITIAL CYSTITIS (BPS/IC): A PILOT STUDY**

*Sairanen J, Tammela TL, Ruutu M.*

This team from Finland have previously used the immunosuppressant cyclosporine (CyA) successfully in refractory BPS/IC. Tacrolimus is also used to prevent rejection of transplanted organs. As an immunosuppressive drug, tacrolimus could be used in treating autoimmune diseases. This was a 4-month pilot study in 10 patients (8 female, 2 male) to evaluate whether it alleviates IC symptoms and whether it is well tolerated. 8 patients completed the study. There were many side effects. Only one patient had no adverse events. The most common complaints were tremor, headache, abdominal pain and pruritus. Although Sairanen and colleagues

considered this a promising drug, they found that it is not tolerated better than cyclosporine and emphasised that it needs testing in a randomized study preferably against placebo. They strongly recommended that it should not be used clinically until this has been done.

Abstract #641

**A PROSPECTIVE RANDOMIZED STUDY OF INTRAVESICAL PENTOSAN POLYSULFATE AND BOTULINUM TOXIN-A FOR THE TREATMENT OF PAINFUL BLADDER SYNDROME/INTERSTITIAL CYSTITIS**

*Taha Rasheed M, Farahat A, Bahnasy M, Bindary A, Tatawy H, Damhougy M.*

Pentosan polysulfate sodium (PPS) is the only therapy approved by the FDA for the oral treatment of PBS/IC. Furthermore, intravesical PPS has been shown to treat PBS/IC with minimal side effects. Botulinum toxin (BTX-A) has in recent years been the subject of much interest for patients with PBS/IC. This prospective, randomised study from Egypt with 28 female patients was designed to compare the efficacy and safety of intravesical instillation of PPS and intravesical injection of BTX-A. It was concluded that BTX-A is more effective in symptom relief for patients of PBS/IC in comparison with PPS. Both drugs are considered to have wide safety, with minimal comparable side effects.

Abstract #642

**INTRA-TRIGONAL INJECTION OF BOTULINUM TOXIN A IN PATIENTS WITH REFRACTORY BLADDER PAIN SYNDROME/INTERSTITIAL CYSTITIS: LONG TERM RESULTS**

*Pinto RMCA, Lopes TA, Silva AS, Alturas Silva JF, Martins Da Silva CP, Oliveira PD, Cruz FR.*

Pinto and colleagues from Portugal evaluated the efficacy and tolerability of intra-trigonal injection of Botulinum Toxin A (BoNT-A) in 16 female patients with BPS/IC who failed to respond to first line treatment. They explained that an increased number of nociceptive sensory fibers course in the trigone of these patients and that BoNT-A has already been shown to have analgesic properties by preventing neurotransmitter release and receptor traffic in nociceptive fibers. Treatment took place under general anaesthesia and, using a rigid cystoscope, 100 U of Botox™ were injected into 10 trigonal sites, each receiving 10 U in 1 ml of saline. All patients were discharged under prophylactic antibiotic. Symptoms significantly decreased, while bladder volume increased. There were no cases of retention. Four patients had UTIs after BoNT-A injection. It was concluded that intra-trigonal injection of 100 U of BoNT-A is a safe and effective treatment for refractory BPS/IC. However, bigger placebo-controlled trials are necessary.

Abstract #643

**BOTULINUM TOXIN TYPE A IN MEN WITH CHRONIC PELVIC PAIN SYNDROME (CPPS) IN COMBINATION WITH OBSTRUCTIVE VOIDING**

*Krivoborodov GG, Shumilo DV, Vasilev AV, Tur EI.*

This study from Moscow investigated Botulinum Toxin A in 14 men with moderate to severe CP/CPPS and obstructive voiding. All patients had been previously treated many times for chronic prostatitis, including antibiotics, nonsteroidal anti-inflammatory drugs, alpha-blockers, laser therapy etc., but with no significant effect. The early results from this study with loss of pain indicate that injection of botulinum toxin type A in the external urethral sphincter is an effective treatment for CP/CPPS in

combination with obstructive voiding. Further studies with larger groups of patients should be carried out to substantiate the results. It was also suggested that the different types of pain: ejaculatory pain, penile pain etc. should be looked at.

Abstract #644

**BOTULINUM A TOXIN INTRAVESICAL INJECTIONS FOR PAINFUL BLADDER SYNDROME: IMPACT ON PAIN, PSYCHOLOGICAL FUNCTIONING AND QUALITY OF LIFE**

*Giannantoni A, Cagini R, Piselli M, Giovannozzi S, Proietti S, Nunzi E, Quartesan R.*

A prospective study looking at botulinum A toxin (BoNT/A) in 14 PBS/IC patients, this time from Italy, and aimed at assessing the impact of intravesically injected BoNT/A on bladder pain, urological complaints, symptoms of anxiety and depression and Quality of Life (QoL) in patients with painful bladder symptoms (PBS) that had failed to respond to conventional treatment. The patients received one injection of commercially available BoNT/A (200 U diluted in 20 ml 0.9% NaCl) under cystoscopy. It was found that BoNT/A intravesical treatment reduced bladder pain and improved psychological functioning and Quality of Life. It was suggested that trigone injection may give the best results but that it is difficult to fit a large number of injections into such a small space.

Abstract #645

**ONE YEAR FOLLOW UP OF EXTRACORPOREAL SHOCK WAVE THERAPY (ESWT) FOR CHRONIC PELVIC PAIN SYNDROME (CPPS) IN A RANDOMISED PLACEBO-CONTROLLED DOUBLE-BLIND STUDY**

*Zimmermann RP, Cumanas A, Miclea F, Janetschek G.*

In this study from Austria and Romania, 60 patients with chronic pelvic pain syndrome (CPPS) were treated by extracorporeal shock wave therapy (ESWT). This is the first placebo controlled study which proves the statistical significance of ESWT effects for CPPS patients also in an extended follow up of 12 months. This is a very new aspect because until now the effects of the treatment have been considered to be rather temporary. ESWT showed efficacy with a complete lack of side effects. It therefore seems to be an optimal outpatient treatment option with attractive costs/benefit.

Abstract #646

**SACRAL NERVE ROOT NEUROMODULATION FOR THE TREATMENT OF INTRACTABLE PAINFUL BLADDER SYNDROME/INTERSTITIAL CYSTITIS (PBS/IC): 14 YEARS EXPERIENCE OF ONE CENTER**

*Gajewski J, Alzahrani A.*

A retrospective Canadian study to evaluate the long-term success and tolerability of the chronic sacral neuromodulation (SNM) in the control of symptoms of painful bladder syndrome/ interstitial cystitis (PBS/IC) in all 78 PBS/IC patients who underwent peripheral nerve evaluation (PNE) and then chronic sacral nerve modulation in this urology department from 1994 till 2008. Both female gender and the presence of urge incontinence were good predictors for PNE success. Presence of urgency was also a very good predictor of long term success. It was concluded that chronic sacral nerve modulation is an effective treatment to control the symptoms of PBS/IC and should be considered before any major intervention if conservative measure has failed. According to the authors, it is minimally invasive,

safe and has good long term durability. The revision rate is high and patients require lifelong follow-up.

Abstract #647

**AETIOLOGIES AND RESULTS OF THE TREATMENT OF OBTURATOR NEURALGIAS BY A LAPAROSCOPIC NEUROLYSIS**

*Rigaud J, Luyckx F, Labat JJ, Riant T, Bouchot O, Robert R.*

Rigaud and colleagues from Nantes, France report that obturator neuralgia is a cause of pelvic and perineal pain that is rarely suggested, probably because it is poorly understood. They report here on the aetiologies and the results of a pilot study in 13 patients on laparoscopic treatment of obturator neuralgia. Diagnosis was made on the basis of allodynic pain of the anterior and internal surface of the thigh, associated with limping with a sidestepping gait. It was confirmed by an anaesthetic block under CT scan monitoring using a posterior approach.

Results were encouraging and pain completely disappeared in 54% of cases.

Abstract #648

**NOVEL MURINE EXPERIMENTAL PROSTATITIS MODEL**

*Altuntas CZ, Byrne LN, Bakhautdin B, Sakalar C, Fox PL, Tuohy VK, Daneshgari F.*

Since the etiology of chronic prostatitis is unknown, the authors of the USA study report that the development of a murine prostatitis model will allow further investigation into this disease.

They noted in their study that immunization of male mice with the immunogenic P25 99-118 induces a prostate-specific autoimmune disorder characterized by prostate-confined inflammation and profound micturition abnormalities similar to those occurring in men with prostatitis. This could be used as a model to further investigate human prostatitis.

Abstract #649

**IMMUNIZATION WITH SELF UROPLAKIN II CAUSES AUTOIMMUNE CYSTITIS; NOVEL MURINE EXPERIMENTAL AUTOIMMUNE CYSTITIS MODEL**

*Altuntas CZ, Byrne LN, Sakalar C, Gulen MF, Bakhautdin E, Qin J, Li X, Tuohy VK, Daneshgari F.*

The aim of this USA study was to examine whether immunization of mice to recombinant Uroplakin (rmUPII) will provoke an autoimmune response against bladder urothelium sufficient to create IC phenotype in mice. They report that their study shows a large immune response mounted in mice immunized with UPII; this response is specific to bladder tissue. EAC mice show significant evidence of frequency and decreased urine output. Further characterization of EAC should include evidence for pain and/or afferent hypersensitivity, and evidence of urothelial cell layer damage.

Abstract #650

**METHOD OF HIGH PRESSURE LOCAL, INTRAVESICAL MEDICINE APPLICATION BY USING SPECIAL BALLOON CATHETER**

*Lovász S, Tenke P.*

Lovasz and Tenke from Hungary note that intravesical medication via transurethral instillation shows several advantages over oral or systemic therapy. Intravesically administered drugs penetrate the bladder mucosa and submucosa by passive diffusion. In this study into high pressure intravesical drug delivery they looked for a



new method of improving drug delivery by profiting from high pressure difference and increased surface with thinning of bladder mucosa at the same time. They invented the use of a special balloon dilation-catheter inside the bladder that allowed them to press any drug previously injected around the balloon into the bladder mucosa through increasing pressure as the balloon grows bigger. While this method of high pressure local intravesical medical treatment of the bladder may contribute to improved efficacy of instillation therapy, it still needs to be proven whether pressure actually gets drugs deeper into tissue.

Abstract #651

**AXONOPATHIC CHANGES OF VISCERAL NERVE ENDINGS IN URINARY BLADDER IN INTERSTITIAL CYSTITIS: AN ULTRA STRUCTURAL STUDY**

*Zamecnik L, Zamecnik J, Hacek J, Soukup V, Hanus T.*

This was a pilot study from Prague aimed at analysing ultra-structural morphologic changes of visceral nerve endings in the wall of urinary bladders of symptomatic patients under the long-term treatment for interstitial cystitis/bladder pain syndrome, performed in accordance with ESSIC Copenhagen classification of endoscopic findings. In 12 (75%) of the studied samples of interstitial cystitis, the authors observed the presence of ultra structural morphologic changes of visceral nerve fibers, particularly signs of axonal neuropathy (accumulation of transport filaments and vesicular organelles) and signs of mild chronic demyelination in myelinated fibers. They concluded that chronic neuropathic changes occur in visceral nerve endings of urinary bladder in interstitial cystitis patients and might represent one of the etiologic factors inducing fixation of chronic pain and urologic disorders in these cases.

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ESU COURSE 13

**CHRONIC PELVIC PAIN SYNDROMES (CPPS) WITH SPECIAL FOCUS ON CHRONIC PROSTATITIS (CP) AND PAINFUL BLADDER SYNDROME / INTERSTITIAL CYSTITIS (PBS/IC)**

Improvisation certainly applied to ESU Course 13 on chronic pelvic pain syndromes, chaired by Professor J.J. Wyndaele, at which IC/PBS experts Professor Magnus Fall and Dr Ralph Peeker who had succeeded in leaving Sweden for Barcelona kindly stepped in to replace Professor Jorgen Nordling who was unable to fly from Denmark, while Professor J. Curtis Nickel - who was alas left sitting without a plane in Canada - was replaced by his UPOINT colleague Professor Dan Shoskes. It was nonetheless a most interesting course and can be viewed as a TTMed webcast at

<http://webcasts.prouis.com/EAU2010/html/1-en/template.aspx?section=7&p=7,11206>

At the time of writing, the slides do not reflect the programme changes: the slides being from the planned speakers and voices from the actual speakers. These may be subject to change in the coming period.

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