

EUROPEAN ASSOCIATION OF UROLOGY

24th Annual Congress

17-21 March 2009, Stockholm, Sweden

A review of posters and presentations on Interstitial Cystitis /Painful Bladder Syndrome and related topics

Below is a review of posters and presentations related to IC/PBS, given at the EAU Congress in Stockholm, Sweden.

WEBCASTS

This year, those who were unable to attend the EAU Annual congress in Stockholm can still enjoy many of the presentations in the form of webcasts. The full list day-by-day is available at: <http://www.eaustockholm2009.org/nc/eau-webcasts/>.

CONGRESS NEWSLETTERS

You don't need to miss the congress newsletters either, since all four congress newsletters are also available online:

<http://www.eaustockholm2009.org/congress-newsletter/>

ESU COURSE 21

Chronic pelvic pain syndromes (CPPS) with special focus on chronic prostatitis (CP) and painful bladder syndrome/interstitial cystitis (PBS/IC)

A link to the course outline and webcasts of three presentations given in this course can be found at:

webcast: <http://www.eaustockholm2009.org/index.php?id=99&P=&NW=&S=2234>

The webcasts begin with an interesting introduction on chronic pelvic pain and the nature and mechanisms of (chronic) pain presented by Professor J.J. Wyndaele from Belgium. This is followed by an excellent, clear and very understandable presentation on chronic prostatitis by Professor J.C. Nickel from Canada covering the definition, classification and etiology, diagnostic work up and treatment. The final webcast presentation for this course by Professor JJ Wyndaele covers the definition, classification and etiology, diagnostic work up and treatment of IC/PBS/BPS. It was emphasized how important it is to exclude potentially dangerous confusable diseases. If the patient diagnosed with IC fails to respond to any therapy, it is a good idea to re-assess the patient after 3-5 years to see if anything was missed the first time round.

STATE-OF-THE-ART PRESENTATION BY PROFESSOR J.C. NICKEL ON PROSTATITIS- OPTIMAL MANAGEMENT 2009

Another excellent presentation by Professor J.C. Nickel on prostatitis, including his "snowflake hypothesis" with its UPOINT subcategories: Urinary symptoms, Psychosocial (identifiable psychopathology), Organ specific (prostate or bladder), Infection, Neurogenic/Systemic (associated conditions e.g. IBS, fibromyalgia etc). Tenderness (of pelvic muscles). The snowflake hypothesis has been validated for both CP/CPPS and IC/PBS. He discusses a clinical phenotypic management strategy for chronic pelvic pain – the phenotypic approach to chronic pelvic pain where each patient is a unique individual, emphasizing the need to phenotype patients in a

clinically meaningful way that can guide therapy. Precisely the same applies to IC/PBS.

With CP/CPBS now being studied closely with IC/PBS in the MAPP research project, this is an ideal opportunity to update your knowledge in this field.

Webcast: <http://www.eaustockholm2009.org/webcastplayer/?S=22916>

SCIENTIFIC POSTERS AND PRESENTATIONS

(Four of the poster presentations were webcast)

63. Bladder pain syndrome/interstitial cystitis in a Danish population

Richter B.1, Hesse U.2, Hansen A.3, Mortensen S.1, Nordling J.1

1Copenhagen University Hospital Herlev, Dept. of Urology, Copenhagen, Denmark, 2University of Southern Denmark, National Institute of Public Health, Copenhagen, Denmark, 3Copenhagen University Hospital Herlev, Dept. of Pathology, Copenhagen, Denmark

The aim of this study was to characterize a Danish patient population (323 women and 26 men) and details of the clinical course as well as to identify possible clinical and morphological parameters of prognostic value for the course of this disease. The results included the following: all patients suffered from pain, 75% had nocturia at least 2 x. A reduced cystoscopic bladder capacity of 500 ml or less was measured under general anaesthesia in 42%. In bladder biopsies, detrusor mastocytosis was found in 53% and intrafascicular fibrosis in 50%. Detrusor mast cell count, intrafascicular fibrosis and nocturnal frequency had significant prognostic value for the risk of developing advanced disease in terms of treatment intensity. It was concluded that nocturia and bladder biopsies with detrusor mastocytosis and intrafascicular fibrosis are of prognostic value for the clinical course.

Webcast: <http://www.eaustockholm2009.org/webcastplayer/?S=21134>

196. Use of hyperbaric oxygenation in the treatment of patients with BPS/IC (session 12)

Zaitcev A.V.1, Matzaev A.B.1, Kasyan G.R.1, Farmanov R.2, Matzaev A,

1Moscow State University of Medicine And Dentistry, Dept. of Urology, Moscow, Russia, 2Moscow State University of Medicine And Dentistry, Dept. of Physiotherapy, Moscow, Russia

This study is based on the hypothesis that chronic ischemia might be an etiological factor in the pathogenesis of interstitial cystitis. According to the authors, the factors controlling blood supply to the human bladder have received little attention. This study concerns the potential efficacy of hyperbaric oxygenation (HBO) in treating IC patients. They concluded that HBO plays a role in treating these patients and that HBO combined with hydrodistension and other therapies may lead to better results and significant increases in bladder perfusion.

Webcast: <http://www.eaustockholm2009.org/webcastplayer/?S=21143>

198. Sacral root neuromodulation: Results after 10 years of experience

Bueno-Serrano G., Fernandez-Fernandez E., Jimenez-Cidre M., Gonzalez-Lopez R.

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Sacral root neuromodulation (SRN) is a technique which has been shown to be efficacious in treating some voiding pathologies as well as treating chronic pelvic pain

and interstitial cystitis. This work provides the experience of 10 years of implants and 35 definitive implants. In their experience, the authors have found SRN to be a safe technique with good outcomes in patients with chronic voiding dysfunction who have not responded to conservative treatment. They also believe that SRN should be considered in selected cases of interstitial cystitis and chronic pelvic pain.

219. Hepatocarcinoma Intestine Pancreas / Pancreatitis associated protein as a biomarker of interstitial cystitis

Makino T.1, Konishi H.2, Kuratsukuri K.1, Kawashima H.1, Nakatani T.1, Kiyama H.2
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Hepatocarcinoma intestine pancreas/pancreatitis associated protein (HIP/PAP) belongs to the Regenerating gene (Reg) family. It has been assumed that HIP/PAP expression is associated with inflammation. Significant expression of HIP/PAP has been observed in acute pancreatitis, Crohn's disease and ulcerative colitis. The levels of HIP/PAP in the urine of IC patients were significantly higher than those in controls. Since significant associations were found between urinary HIP/PAP level and urinary symptoms in IC patients, the authors concluded that HIP/PAP may be a useful diagnostic and symptomatic biomarker of IC.

220. Apoptotic activity of urine from patients with interstitial cystitis as a biomarker of symptoms severity

Di Capua C.A.1, Herrera G.2, Diaz L.2, O'Connor E.2, Castro D.3, Ruiz-Cerda J.L.1, Jimenez-Cruz J.F.1

1La Fe University Hospital, Dept. of Urology, Valencia, Spain, 2CIPF-UV, Dept. of Laboratory of Cytomics Mix Unit, Valencia, Spain, 3University Hospital of Canary Islands, Dept. of Urology, Tenerife, Spain

The purpose of this study was to examine the apoptotic activity of urine from IC patients as a biomarker of symptom severity. One of the many hypotheses concerning the etiology of IC is that an antiproliferative factor (APF) may be capable of altering the behaviour of urothelial cells. This is consistent with clinical observation of epithelial thinning and denudation in IC bladder tissue. According to the researchers, the percentage of apoptosis was significantly higher in the urine of IC patients than in the urine of controls. They are of the opinion that the preliminary data from their study indicate that urine of IC patients has antiproliferative activity demonstrated by its apoptotic effect of bladder cancer cell cultures. The apoptotic activity correlates with symptom severity and is easily measured by flow cytometry which might be a potential biomarker in clinical practice.

Webcast: <http://www.eaustockholm2009.org/webcastplayer/?S=21013>

221. Urinary hydrogen peroxide: A probable marker of oxidative stress in interstitial cystitis

Masuda H., Sakai S., Numao N., Komai Y., Tatokoro M., Kihara K.

Tokyo Medical and Dental University, Dept. of Urology, Tokyo, Japan

In this study from Japan, urine hydrogen peroxide was postulated to be a biomarker of oxidative stress. The authors checked the endogenous hydrogen peroxide formation in the urine to investigate whether oxidative stress is involved in the

etiology of IC. Overactive bladder (OAB) female patients were also investigated. There were 9 IC patients, 10 OAB patients and 10 controls in this study. All IC patients had classic IC. They found that urine hydrogen peroxide concentration in the IC group was significantly higher than that in either the control or OAB group. However there was no significant difference between the control group and OAB group. It was concluded that oxidative e stress formation in the bladder may be part of IC pathogenesis and a clinical biomarker of IC.

Webcast: <http://www.eaustockholm2009.org/webcastplayer/?S=21024>

608. Down-regulation of tachykinin receptor gene expression in patients with interstitial cystitis is mediated by microRNAs

Sanchez-Freire V.1, Burkhard F.C.2, Studer U.E.3, Kessler T.M.3, Kuhn A.4, Monastyrskaya K.1

1University Hospital of Berne, Institute of Anatomy, Berne, Switzerland, 2University Hospital of Berne, Dept. of Urology, Berne, Germany, 3University Hospital of Berne, Dept. of Urology, Berne, Switzerland, 4University Hospital of Berne, Dept. of Genecology, Berne, Switzerland

In this study in 16 patients with IC/PBS symptoms and 8 asymptomatic controls, the researchers demonstrated that tachykinin receptors NK1 and NK2 are down-regulated in the bladder dome of IC patients. They believe that this suggests that, in contrast to acute inflammatory states, there is a continuous exposure to mediators of neurogenic inflammation in patients with IC/PBS which induces remodelling of the receptor signalling complex. The authors postulate a role of microRNAs in the pathogenesis of IC/PBS and demonstrate a direct correlation between expression of miR-328 and down-regulation of NK1R in a cell-based model.