

International Braz J Urol

EDITOR'S COMMENT

Oxidative Stress and Sperm Chromatin Damage in Male Infertility

The September - October 2007 issue of the International Braz J Urol presents interesting contributions, and as usual, the editor's comment highlights some papers.

Doctor Cocuzza and collaborators, from the Reproductive Research Center, Cleveland Clinic, Ohio, and Tulane University Health Sciences Center, New Orleans, Louisiana, USA presented on page 603 an important review article on the clinical relevance of oxidative stress and sperm chromatin damage in male infertility. The authors demonstrated that despite the controversial findings in the existing literature, there is now enough evidence to show that sperm DNA damage is detrimental to reproductive outcomes. In addition, spermatozoa of infertile men are suggested to carry more DNA damage than do the spermatozoa from fertile men. Besides impairment of fertility such damage is likely to increase the transmission of genetic diseases during the assisted reproductive procedures. Standardization of protocols to assess reactive oxygen species (ROS) and DNA damage is very important in introducing these tests in such clinical practice. Thus evaluation of seminal ROS levels and extent of sperm DNA damage especially in an infertile male may help develop new therapeutic strategies and improve success of assisted reproductive techniques.

Doctor Mota and co-workers, from the Federal University of Ceara and University of Sao Paulo Ribeirao Preto, Sao Paulo, Brazil, investigate on page 704 the possible protective effect of recombinant human interleukin-11 (rhIL-11) against ifosfamide (IFS)-induced hemorrhagic cystitis (HC). They studied male Swiss mice pretreated with rhIL-11 (25-625 µg, subcutaneously.) 30 min before intraperitoneal injection of IFS (400 mg/kg) or with saline (control group). Twelve hours later, HC was evaluated by bladder wet weight (BWW) to quantify edema, Evans blue extravasation (EBE) to measure vascular permeability, and macroscopic and microscopic analysis. All bladders were assessed by histopathological analysis. rhIL-11 (at 125 and 625 µg) attenuated the IFS- induced increase of BWW (37.48% and 45.44%, respectively, $p < 0.05$) and EBE (62.35% and 56.47%, respectively, $p < 0.05$). The results demonstrate a protective effect of rhIL-11 on experimental IFS- induced HC, which were not previously reported.

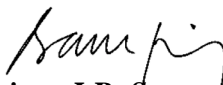
Doctor Picolli and colleagues, from the Section of Nephrology, Federal University of Sao Paulo, UNIFESP, Sao Paulo, Brazil investigates on page 622 the association between matrix metalloproteinase-1 (MMP-1) promoter polymorphism and risk of renal cell carcinoma. The authors genotyped 217 individuals, 99 patients with renal cell carcinoma (RCC) and 118 controls without cancer. DNA specimens were extracted from epithelial buccal cells and paraffin-embedded tissue of RCC patients and from epithelial buccal cells and blood cells of healthy controls. The comparison of genotype distribution and frequency of 2G allele in different populations showed a strong variability of 2G allele frequency among the different ethnic groups. This fact may influence on the collaboration of this 2G allele in RCC or others diseases. The data suggested

EDITOR'S COMMENT - *continued*

that the matrix metalloproteinase-1 (MMP-1) promoter polymorphism may not play a significant role in renal cell carcinoma patients in Brazil.

Doctor Nakamura and colleagues, from the Institute Radium of Oncology, Campinas, Sao Paulo, Brazil, identified on page 652 the prognostic factors for late urinary toxicity grade 2-3 after conformal radiation therapy (3DCRT) on patients with prostate cancer. The authors studied 285 patients with localized prostate cancer with a median dose delivered to the prostate of 7920 cGy (7020-8460). On a median follow-up of 53.6 months (3.6-95.3), the 5-year actuarial free from late urinary toxicity grade 2-3 survival was 91.1%. Seven and fifteen patients presented late urinary toxicity grades 2 and 3, respectively. Prior transurethral resection of prostate and radiation dose over 70 Gy on 30% of initial bladder volume were independent prognostic factors for late urinary toxicity grade 2-3. The results suggest that restricting radiation doses to 70 Gy or less on 30% of bladder volume, visualized through CT planning, may reduce late urinary complications. It furthermore suggests that patients with prior transurethral resection of prostate may indicate a group of patients with a greater risk for late urinary toxicity grade 2-3 after 3DCRT. Doctor Michael Pinkawa, from the Department of Radiotherapy, Aachen University, Germany, a world expert in the field, provided interesting editorial comment on this paper.

Doctor Velloso and co-workers, from Federal University of Minas Gerais, Belo Horizonte, Brazil, emphasized on page 639 the evaluation of the modified Gleason score agreement in needle biopsies and in surgical specimen, as well as the interobserver variability of this score. Contrary to what was expected, the modified Gleason score was not superior in the agreement between the biopsy score and the specimen, or in interobserver reproducibility, in this study. Doctor Lars Egevad, from Karolinska Hospital, Stockholm, Sweden, Doctor Rodolfo Montironi, from Polytechnic University of the Marche Region, Ancona, Italy, Dr. Liang Cheng, from Indiana University School of Medicine, Indianapolis, USA, and Dr. Jonathan I. Epstein, from The Johns Hopkins Hospital, Baltimore, USA, world renowned experts in prostate pathology, provided excellent and educative editorial comments on this paper.


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