P 243

TITEL: POSTERIOR SUBCAPSULAR CATARACT DEVELOPMENT IN PATIENTS AFTER BONE MARROW TRANSPLANTATION - A CASE REPORT

Junk A.K.[1,2] Stefani F.H.[2] Kampik A.[2] Egner P.[1] and Roos H.[1]

[1] *Strahlenbiologisches Institut, Ludwig-Maximilians-Universität München*
[2] *Augenklinik der Ludwig-Maximilians-Universität München*
[3] *Abteilung für Knochenmarkstransplantation, Klinikum Großhadern, Ludwig-Maximilians-Universität München*

Purpose: A side effect of leukemia treatment by bone marrow transplantation can be the formation of posterior subcapsular cataract (PSC). Total body irradiation (TBI) before transplantation and high dose steroid therapy for severe graft-versus-host-disease (GvHD) are known to be important factors in formation of PSC. The purpose of this longitudinal study was the early and objective identification of lens changes and their progression over time.
Methods: Leukemia patients with TBI (fractionated application of 12 Gray over 3 days) or chemotherapy pretreatment underwent full ophthalmologic investigation (patient history, visual acuity, Goldmann applanation tonometry, biomicroscopy of the anterior segment of the eye, especially the lens, and funduscopy). The lens opacifications were assessed with a Topcon SL-45 Scheimpflug camera with integrated image processing device. Contrast sensitivity was detected under standard conditions with Pelly-Robson charts.
Results: More than 100 patients before and after bone marrow transplantation were examined. Follow up was performed after six months or one year. Lens changes in the posterior subcapsular area could be detected as early as one year after TBI. Marked progression was found in patients after TBI when high dose steroid therapy had to be performed for acute GvHD.
Conclusions: Total body irradiation significantly rises the probability of posterior subcapsular cataract formation in bone marrow transplant patients. High dose steroid therapy also is an important factor for PSC formation. Clinical evaluation should include detection of contrast sensitivity in these patients, as it serves to correlate clinical findings with patients complaints. Further examination needs to be performed for statistical evaluation of risk factors.

P 244

COMPUTER-SUPPORTED ANALYSIS OF IMMUNOMODULATING ACTIVITY OF ALLOPURINOL IN EXPERIMENTAL LENS-INDUCED UVEITIS

GRUS F.-H.[1], AUGUSTIN A.J.[1], ZIMMERMANN C.W.[2], LUTZ, J.[3] and SPITZNAS M.[1]
[1]Dept. of Ophthalmology, University of Bonn (FRG); [2]Dept. of Neurology, University of Essen (FRG); [3]Dept. of Physiology, University of Würzburg (FRG).

Purpose: The screening of sera for autoantibodies using Western blots (WB) reveals complex staining patterns of both naturally occurring autoantibodies and disease-associated autoantibodies. Using the model of lens-induced uveitis (LIU) it was the aim of this study to analyse whether allopurinol changes these autoantibody (AAB) repertoires.
Methods: We tested the sera of both LIU and control rats against WB's obtained from SDS-PAGE preparations of protein fractions from rat lenses. These blots were scanned using digital image analysis (ScanPacK, Biometra, FRG). A newly developed technique (MegaBlot) was used to compare these complex AAB repertoires.
Results: Following immunization the development of complex antibody repertoires against lens proteins was shown. Allopurinol (AL) showed a dose dependent immunological effect in LIU treatment. A single dose of AL (50 mg/kg bw i.v.) showed no significant changes in AAB repertoire; following frequent application of AL (administered at a dose of 50 mg/kg bw i.v. every two weeks during the immunization period and at a daily dose of approx. 25 mg/kg bw orally), a significant modification of AAB repertoires against lens proteins was obtained as compared to those of controls.
Conclusions: Given as a single dose of 50 mg/kg bw, allopurinol leads to a reduction of tissue inflammation by acting as a direct scavenger of free radicals and hypochlorous acid. Frequent application during the immunization period reveals a strong immunomodulating effect of AL. Considering the upcoming new immunomodulating treatments for uveitis, the MegaBlot technique can detect and monitor therapeutically induced changes in AAB repertoires.