

Results: The thing is that emotional suppression is common in combatants. So, the expression of anxiety, as well as other “restricted” emotions in PTSD group is too devaluated. Never the less, differentiation between horror, fear and anxiety was possible in this group. Clinically, anxiety made the syndrome more abstractive and “endogenous”, while non-anxious PTSD was more concrete, “exogenous” and classic. Pathopsychologically, significant differences in anxiety levels (A Beck scale; DV Sheehan scale and CD Spielberger inventory) appeared between anxious, non-anxious PTSD groups, and controls, as the suppression went by. Significant differences between PTSD group and controls were also detected in such personality traits, as emotiveness and imbalance (K Leonhard inventory).

Conclusion: This data provides new evidence in understanding the role of anxiety in patho-morphosis of PTSD.

S-62-05

Brain imaging, neurocognition, and HPA status in PTSD

T. Neylan, C. Otte, M. Weiner, C. Marmar. *Univ. of CA, San Francisco Psychiatry, San Francisco, USA*

Objective: Previous studies have suggested that PTSD is associated with hippocampal volume loss, deficits in memory, learning, and attention, and altered HPA function. Because individuals with PTSD often have comorbid alcohol abuse diagnoses, the extent to which the confounding effects of alcohol abuse are responsible for these findings is a growing concern for PTSD researchers.

Methods: Our study controls for this potential confound of alcohol abuse by comparing structural brain imaging and MR spectroscopy, neuropsychological test scores, and the dexamethasone suppression test from participants in four groups: current PTSD and a history of alcohol abuse in the past five years ($n = 30$), current PTSD without history of alcohol abuse ($n = 37$), no lifetime PTSD and with alcohol abuse ($n = 30$) and no lifetime PTSD or alcohol abuse ($n = 31$).

Results: There were no significant effects of PTSD or alcohol abuse on hippocampal volume. PTSD was associated with reduced N-Acetyl Aspartate/Creatine (NAA/Cr) on the left hippocampus [$F = 5.0$; $p = 0.028$] but not on the right side. There was no main effect of alcohol or alcohol/PTSD interaction effect on NAA/Cr. After controlling for education, there was an overall main effect of PTSD on measures of verbal memory and attention, and no main effect of alcohol or interaction effect. After covarying for attention, verbal memory differences between PTSD and controls remained. There was no association with verbal memory and attention on brain imaging or spectroscopy. Results of dexamethasone suppression test are pending and will be presented.

Conclusion: PTSD and history of alcohol abuse was not associated with hippocampal volume loss in this study. PTSD was associated with reduced NAA/Cr in the left hippocampus. History of alcohol abuse does not account for deficits in verbal memory and attention in PTSD.

Wednesday, April 6, 2005

S-70. Symposium: Posttraumatic stress disorders and quality of life after intensive care treatment

Chairperson(s): Hans-Peter Kapfhammer (Graz, Austria), G. Schelling (München, Germany)
08.30 - 10.00, Holiday Inn - Room 2

S-70-01

Epidemiology and course of cardiac surgery-related PTSD

H. B. Rothenhäusler. *Graz, Austria*

Objective: Little is known concerning the natural history of posttraumatic stress disorder (PTSD) in cardiac surgery patients. There have been only two postal studies in which PTSD symptomatology was investigated in patients who had undergone coronary artery bypass graft (CABG) or aortic valve replacement (AVR). The aims of our study were to examine, with a 1-year prospective design, psychiatric morbidity in patients who had undergone cardiac surgery with cardiopulmonary bypass (CPB), with a particular emphasis on the incidence and course of in-hospital PTSD symptomatology.

Methods: In a prospective study, we followed up for 1 year 30 of the original 34 patients who had undergone cardiac surgery with CPB. Patients were assessed preoperatively, before discharge, and at 1 year after surgery with the Structural Clinical Interview for DSM-IV. Delirium Rating Scale (DRS) was used daily over the course of ICU treatment.

Results: At baseline, 8.8% ($n=3$) of the entire sample ($N = 34$; mean age: 68.2 ± 9.7 yrs, men: 64.7%; CPB time: 124.5 ± 52.1 min; ICU stay: 3.1 ± 1.7 days) met criteria for a lifetime diagnosis of PTSD. During ICU treatment, postoperative delirium developed in 32.4% ($n=11$) of the sample but recovered quickly within 3 days or less. At discharge, 17.6% ($n=6$) of the sample met the criteria for an acute full in-hospital PTSD. The diagnostic status of in-hospital PTSD was linked to postoperative delirium ($p < 0.05$). One year after surgery, out of the 6 patients showing full PTSD at discharge, 3 patients fully and 2 patients partially remitted by 12 months, and 1 patient was unavailable for 1-yr-f/up. Of the 5 followed up cases of in-hospital PTSD, 3 received psychotherapy after surgery, and remission of PTSD was noted in 2 of them.

Conclusion: We should highlight the importance of assessing psychiatric morbidity before cardiac surgery, the need for rapid diagnosis and treatment of postoperative delirium and the importance of detecting and treating cardiac surgery-related PTSD at an early stage in order to avoid the negative long-term outcomes that have generally been attributed to PTSD following medical illness and treatment.

S-70-02

Medical disorders as a cause of psychological trauma and PTSD

H.-P. Kapfhammer. *Klinikum Graz, Graz, Austria*

Objective: At the beginning, PTSD research was primarily focused on war veterans and victims of bodily assault or rape. Starting in the early 90s, PTSD after civilian traumas such as motor vehicle accidents was diagnosed increasingly more often. Recent publications showed that PTSD can also follow serious somatic diseases.

Methods: Survey is given on published studies exploring the incidence of posttraumatic disorders after severe medical states and associated treatment modalities.

Results: Awareness during anaesthesia, prolonged ICU treatment (ARDS, septic shock), burns, successful resuscitation after cardiac arrest, coronary artery bypass surgery, organ transplantation and cancer were all linked to the development of PTSD. Prevalence of PTSD in these medical conditions lies around 5 – 10%, and it is therefore considered an important comorbidity.

Conclusion: Unfortunately, diagnosis and treatment of PTSD are not well enough established yet and thus do receive too little attention in the treatment regime of somatic illness. Generally, PTSD can occur with every life-threatening disease, but possibly also with less severe diseases if the patient experiences intense fear. PTSD symptoms, especially intrusive recollections, avoidance and hyperarousal can impair the patients' quality of life more than the primary disease. This seems to be also true for subsyndromal PTSD. To adequately diagnose and treat patients at risk of developing PTSD, close collaboration between physicians of all subspecialties and psychiatrists will be necessary.

S-70-03

Effects of glucocorticoids on human memory functions - Implications for post-traumatic stress disorder

D. F. De Quervain. *Zürich, Switzerland*

Objective: Elevated glucocorticoid levels inhibit memory retrieval in animals and healthy human subjects. Therefore, we hypothesized that cortisol administration might also reduce excessive retrieval of traumatic memories and related symptoms in patients with chronic post-traumatic stress disorder (PTSD).

Methods: During a 3-month observation period, low-dose cortisol (10 mg per day) was administered orally for one month to three patients with chronic PTSD using a double-blind, placebo-controlled, crossover design.

Results: In each patient investigated, there was a significant treatment effect with cortisol-related reductions of at least 38% in one of the daily rated symptoms of traumatic memories as assessed by self-administered rating scales. In accordance, CAPS ratings assessed after each month showed cortisol-related improvements for reexperiencing symptoms and, additionally, in one patient for avoidance symptoms.

Conclusion: The results of this pilot study indicate that low-dose cortisol treatment reduces cardinal symptoms of PTSD.

S-70-04

Liquid chromatography-tandem mass spectrometry - a promising new technology in clinical stress research

M. Vogeser, G. Schelling. *München, Germany*

Objective: The biochemical mechanisms underlying the adaptation to acute and chronic stress are complex and subject of decades of research. Both low and high molecular weight compounds are involved in the endocrine networks of stress reactions and their reliable quantification is of utmost scientific interest.

Methods: Traditional techniques for the investigation of biological compounds involved in stress reactions (like catecholamines or cortisol) are gas chromatography-mass spectrometry (GC-MS), high performance liquid chromatography (HPLC) with conventional techniques of detection, and immunoassays. These techniques have substantial shortcomings: GC-MS and conventional HPLC techniques require very laborious

sample preparation, are inconvenient and the applicability is restricted to a small part of the compounds of interest. Immunoassays are prone to analytical interferences like heterophilic antibodies or cross-reactions with related endogenous and exogenous compounds; method development, requiring the production of respective antibodies, is extremely challenging and time consuming. The development of electrospray ionization (ESI) by J. Fenn, honored with the Nobel Prize in Chemistry 2002, has enabled the combination of HPLC with mass spectrometry; respective liquid chromatography-tandem mass spectrometry instruments (LC-MS/MS) have been introduced for routine application during recent years.

Results: This new technology is superior to so far available methods for the quantification of low and high molecular weight endogenous and exogenous analytes in essential respects: Very limited sample preparation (without derivatization) is required and run times are usually short enabling high-throughput analyses; LC-MS/MS is applicable to almost all analytes irrespective of the molecular structure and the molecular weight; method development is very straightforward; practicability and robustness of the respective instruments is by far superior to that of GC-MS systems. Using stable isotope labeled standards LC-MS/MS enables routine application of highly accurate reference methods (isotope dilution internal standardization); LC-MS/MS allows multiparametric analyses with the simultaneous quantification of up to 20 analytes in one analytical run.

Conclusion: Examples for the application of LC-MS/MS in stress research is the highly accurate simultaneous quantification of steroid hormones and catecholamines with respective metabolites in various body fluids including saliva; characterization of the cortisol-cortisone shuttle; quantification of endocannabinoids; monitoring of experimentally administered drugs and their metabolites in animals and humans.

S-70-05

Traumatic memory and neuroendocrine changes in patients with PTSD. Mechanisms and therapeutic implications

G. Schelling. *München, Germany*

Objective: A majority of patients after intensive care treatment report traumatic memories from their stay in the intensive care unit (ICU). Traumatic memories can be associated with the development of posttraumatic stress disorder (PTSD) in a subpopulation of these patients. In contrast to other patient populations at risk for PTSD, patients in the ICU often receive exogenously administered stress hormones like epinephrine, norepinephrine or cortisol for medical reasons and are extensively monitored. ICU patients therefore represent a suitable population for studying the relationship between stress hormones, traumatic memories and the development of PTSD.

Methods: Empirical data derived from studies on patients and animals are presented.

Results: Studies in long-term survivors of ICU treatment demonstrated a clear and vivid recall of different categories of traumatic memory such as nightmares, anxiety, respiratory distress or pain with little or no recall of factual events. The number of categories of traumatic memory increased with the totally administered dosages of stress hormones (both catecholamines and cortisol) and the evaluation of these categories at different time points after discharge from the ICU showed better memory

consolidation with higher dosages of stress hormones administered. The incidence and intensity of PTSD symptoms increased with the number of categories of traumatic memory present but increased dosages of stress hormones did not increase PTSD symptom scores. In particular, the administration of stress doses of cortisol to critically ill patients resulted in a significant reduction of PTSD symptoms measured after recovery. Furthermore, low doses of hydrocortisone in patients with chronic PTSD resulted in an improvement of memory related symptoms. These effect of cortisol can possibly be explained by a cortisol-induced temporary impairment in traumatic memory retrieval which has previously been demonstrated in both rats. and humans.

Conclusion: Stress hormones influence the development of PTSD through complex and simultaneous interactions on memory formation and retrieval. Our studies also showed, that the inhibition of traumatic memory retrieval by glucocorticoids may be useful as a prophylactic or therapeutic modality in PTSD.

Monday, April 4, 2005

C-09. Educational course: Cognitive behaviour therapy in anxiety disorders

Course director(s): Lars-Göran Ost (Stockholm, Sweden), 14.15 - 17.45, Hilton - Salon Bialas

Monday, April 4, 2005

O-06. Oral presentation: PTSD and somatoform disorders

Chairperson(s): Ian Brockington (Herefordshire, United Kingdom), Michael Linden (Teltow/Berlin, Germany) 16.15 - 17.45, Holiday Inn - Room 7

O-06-01

Risperidone treatment for chronic PTSD

M. Simonovic. *Clinic for Health Protection, Serbia + Montenegro*

Clinically most relevant issues associated with chronic posttraumatic stress disorder are problems with self-regulation, including affect and impulse dysregulation; transient dissociative episodes; somatic complaints and altered relationships with self and others; as well as symptoms of depression and anxiety. Recommended medication for PTSD do not resolve all symptoms clusters, and can even worsen associated features. In searching for medication that can stabilize mental tension, that improves information-processing and cognitive integration, that activates serotonergic pathways and improves sleep, we turned to risperidone (RispoleptR) due to its receptor profile. The study was designed to establish the efficacy of risperidone in the treatment of associated symptoms in chronic posttraumatic stress disorder. Subjects with chronic PTSD were assessed during first visit and again at the end of the treatment, using the following instruments: MADRS, HAMA, MMPI-201 and PIE. The results show significant reduction in total MADRS and HAMA scores. Results of the psychological testing shed some light on the possible

mechanism underlying those changes. We discuss the results, own clinical impressions and further directions in this area of importance for development more efficacious approaches in the treatment of chronic PTSD.

O-06-02

PTSD problem in Ukraine

B. Mykhaylov. *Kharkov Medical Academy of P.E Chair of Psychotherapy, Kharkov, Ukraine*

Objective: The last decade of millenium in Ukraine is characterized by severe influence of various psychogenic factors - natural, technologic and social catastrophes causing to manifestation neurotic disorders, with clinic identify to posttraumatic stress disorders (PTSD). We conducted comparative study 280 patients with PTSD in various regions of Ukraine. Three model regions were selected: 64,0% all inspected PTSD patients had anamnestic different technologic catastrophes. 27,0% of PTSD patients were participants of battle operations. 9,0% had undergone to an operation other stress factors (criminal victims, car accidents, ets). We developed a supportive psychotherapy complex with pathogenic individual rational and directive group psychotherapy, symptomatic suggestive and training psychotherapy with nondirective psychotherapy performing at final supporting stage. Our experience showed the necessity of the use the integrative models of psychotherapy, parted on stages. On the first stage - sedative-adapting the receptions of cognitive and suggestive psychotherapy are used. There is group therapy on second-main-stage. On the third stage-supportive- elements of the autogenic training mastered.

O-06-03

Impact of comorbid PTSD on course and familial aggregation of mood disorders

C. Vandeleur, F. Ferrero, M. Preisig. *Recherche en Epidemiologie Psychiatrie, Chene-Bourg, Geneva, Switzerland*

Objective: Only few studies have assessed the impact of PTSD on course/outcome of patients with mood disorders, and studies on the familial aggregation of mood disorders with/without comorbid PTSD are still lacking. Consequently, we assessed: 1) the strength of the association between mood disorders and PTSD; 2) the association between PTSD and other comorbid disorders in patients with mood disorders; 3) the impact of comorbid PTSD on the course of mood disorders, in terms of age of onset of episodes, suicidal attempts and social impairment; 4) the impact of PTSD on the familial aggregation of mood disorders.

Methods: Our sample included 152 patients with MDD, 124 with bipolar-I disorder, and their interviewed first-degree relatives (N=456), as well as 94 medical controls. Diagnoses were made according to a best-estimate procedure based on a semi-structured interview, medical records and family history information.

Results: 1) Patients reported higher rates of PTSD as compared to controls; 2) The presence of PTSD increased the risk of additional comorbidity including substance, anxiety and childhood disorders; 3) History of PTSD in depression was predictive of earlier onset of episodes and social impairment in terms of low GAF scores, whereas PTSD in bipolar-I disorder was