Epileptic attack, delirium, and periodic complexes in the EEG during mianserin treatment

Tricyclic and newer antidepressants have certain undesirable effects, including an increased susceptibility to delirium, myoclonic jerks, and epileptic convulsions. Two patients had an epileptic attack during mianserin treatment followed by delirium and EEG changes presenting as slow activity with periodic complexes similar to those seen in the Creutzfeld-Jakob disease. A 61 year old male had suffered from paranoid schizophrenia since 1975. The patient was admitted to hospital due to increased psychotic symptoms in August 1987. On admission, medication previously used (promazine 200 mg and mianserin 60 mg in the evening) and pseudoparkinsonism 100 mg, three days a time, was introduced. He developed acute left-sided hemiplegia five days after admission. CT of the head showed central atrophy and a new right parietal infarction. Five days after the stroke the temporarily discontinued neuroleptic and antidepressant medications were reintroduced due to nocturnal delirium and a continuation of psychotic symptoms during the daytime. Two weeks later he had numerous grand mal attacks associated with periodic slow complexes similar to that seen in Creutzfeld-Jakob disease (CJD) on EEG. Both symptoms subsided after the introduction of carbamazepine and discontinuation of mianserin. The patient recovered from the hemiplegia and delirium, and during a follow up period of 18 months, no progressive cognitive deterioration or new epileptic attacks were observed. A 68 year old female with mild depressive symptoms treated with a low doxepine dose (35 mg/day) developed a major depressive episode during the summer of 1989 and was admitted to a psychiatric hospital. At admission she was extremely depressed (Hamilton depression rating scale score 31), but showed no cognitive deterioration in the Mini-Mental State Examination (MMSE score 24), and her EEG was normal. Doxepine treatment was discontinued and mianserin was introduced slowly, reaching 90 mg on the evening of the second day, resulting in a therapeutic mianserin concentration of 359 nanomoles/litre (therapeutic level 200-450 nanomoles/litre). Two weeks after admission she had an epileptic attack, after which she showed cognitive impairment (MMSE score 8), had myoclonic jerks, and met the DSM-III-R criteria for delirium during the next six days. Mianserin treatment was discontinued. Since her second EEG showed generalised slowing with periodic complexes similar to those seen in CJD, she was transferred to the Department of Neurology, where laboratory results including CSF and CT of the head were normal. After the delirious episode EEG was normal, cognitive functioning restored (MMSE 25), and the myoclonic jerks disappeared. DVT of the legs was also present, but disappeared when anticoagulants were started. The pathogenesis of the EEG abnormalities seen in CJD is unknown, but the normalisation of EEG after delirium and the stable clinical picture in our patients during follow up is not consistent with EEG changes in delirium in the form of increased slow wave activity and disruption of the normal alpha rhythm has also been demonstrated. A noxious response to mianserin in our patients is suggested despite the therapeutic plasma level in the second case.

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BOOK REVIEWS


This multi-author text, with 68 contributors, covers the entire spectrum of clinical MRI. Like many other radiological texts it is really too large and heavy. Our copy is already showing signs of Abuse, I am sure, but that must be preferable to publish the first 12 chapters as a separate volume.

The initial sections cover the physical basis and technical aspects of magnetic resonance imaging. These are based on the excellent monthly course organised by John Hesselink and Robert Mattray at the M.R. Institute in San Diego. They are readable, extremely well illustrated, and easy to follow, all understandable. Included is a chapter on clinical spectroscopy, which might better have been called "Spectroscopy for the Uninitiated" and which left us with a better understanding of its potential future clinical role.

Images in the brain and spine sections are excellent. Some illustrations in the body section are rather disappointing and are not "state of the art". This is a problem with all textbook in progress, as the date of publication is given in parentheses. The editors have recognised this and include future development sections in many chapters. The musculo-skeletal chapters are superbly illustrated and written.

In some areas the clinical emphasis will seem strange to a British reader. For example, two pages are devoted to spinal cord tumours, 27 to examination of the testes and a simple example to temporomandibular joint dysfunction.

As a neuro-MR reference work this adds little to the much smaller "MRI of the CNS" by M. Brant-Zawadski and D. Norman. The chapter on normal neuro-anatomy cannot compare with "Cranial and Spinal MRI" by Daniels, Haughton and Naidich. The compact "Clinical MRI" by V. M. Runge and S. M. Smith is preferable, as are the authoritative general reference works on clinical MRI is excellent value at £118.

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This book is the proceedings of one of the meetings to be held regularly in the UCLA Forum in Medical Sciences. The subject of the meeting and title of the book reflect increasing interest in the morphological and physiological substrates of higher cognitive functions. The availability of modern imaging techniques, including MRI, SPECT and PET together with more precise quantitative morphological measurements, neuropsychological assessments and molecular biology have considerably contributed to the understanding of the relationship between cerebral structures and higher cognitive function. The application of these new methods to the brain has yielded rich dividends in an area of biomedical research which hitherto escaped scientific scrutiny.

This book gives a good, if not comprehensive, account of recent developments in the investigations of higher cognitive functions. The 14 chapters and the concluding overview are of consistently high standard. Several papers explore the morphological correlates of higher cognitive functions, like Sieberl’s investigations of the dendritic arborisation and Diamond’s excellent analysis of cortical changes brought about by learning and experience. Other chapters cover physiology, concepts of functional subdivisions of cerebral functions as afforded by modern imaging techniques. Even more traditional approaches are illuminated: Pandya and Yeterian give an overview of the architecture, neuronal circuitry and connections of the cerebral cortex against the background of brain evolution and function.

The weakest parts of the book are the discussions which conclude each chapter. These might have been interesting for the participants at the meeting in the heat of the argument, but fall flat for the reader removed from the immediacy of the symposium. This