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Melatonin treatment in delirious state – A case study

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Abstract

Delirious state is a common complication in dementia, dysregulation of the sleep-wake cycle is one characteristic finding during delirium. Low tryptophan levels were found to be associated with delirium in the elderly indicating a possible role of tryptophan or tryptophan like compounds such as melatonin in the pathogenesis of delirium. H.E., female, aged 86 years, recently admitted to our Department of Gerontology because of persisting agitation in the evening and during night time, a severe dementia was diagnosed (MMSE 4). Cranial CT-scan revealed a leucaraiosis and a generalized atrophy more pronounced in the temporal regions. Routine laboratory tests were normal. The patient suffered recurrent urine tract infections due to descensus uteri . Nocturnal agitation consecutively was treated with Quetiapine 100 mg without any effect. Treatment with Prothipendyl 120 mg and Chlorprothixen 65 mg likewise brought no relief, even with additional medication of Midazolam Hydrochlorid 4 ml or Flunitrazepam 2 mg. Due to the combination of drugs as described, the patient became even more agitated, despite being heavily sedated, and consequently fell almost every other night, sometimes even repeatedly. To rule out intracranial bleeding, CT scanning had to be performed on four occasions. Once the treatment described above Circadin (Melatonin) was established, 2 mg for 2 days, thereafter 4 mg at night, within four days no additive medication was needed and the patient no longer showed any agitation during the night. With the patient`s condition under control, she was discharged after eight weeks of institutional treatment. This case study demonstrates successful treatment of a patient suffering severe dementia with persistent delirium by giving exogenous melatonin, in 4 mg dosage, whereas in earlier studies lower doses were used in similar cases. Melatonin was well tolerated, suggesting a probable role of tryptophan in the pathogenesis of delirium. Additional controlled trials are still required to find the optimal dosage for different clinical situations and different subtypes of delirium in patients with dementia and probably for a prophylactic treatment for patients at high risk for delirium including the critically ill.