

## **Underlying pathologies and their associations with clinical features in terminal delirium of cancer patients.**

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### **Abstract:**

Delirium is a common complication in terminally ill cancer patients. Identification of underlying pathologies and prediction of clinical features may improve effective symptom alleviation. This study aims to clarify precipitating factors and their associations with clinical features of terminal delirium. Consecutive hospice inpatients who developed delirium were prospectively evaluated following a structured protocol. Among 237 patients followed until death, 245 episodes of delirium were identified in 213 patients. Precipitating factors for delirium were disclosed in 93% of the 153 cases in which investigations were completed. Mean number of etiologies was  $1.8 \pm 1.1$  per patient, and two or more factors were recognized in 52%. The main pathologies identified were hepatic failure, medications, prerenal azotemia, hyperosmolality, hypoxia, disseminated intravascular coagulation, organic damage to the central nervous system, infection, and hypercalcemia. Occurrence of hyperactive delirium and the requirement for symptomatic sedation significantly correlated with hepatic failure, opioids, and steroids, while dehydration-related pathologies were significantly associated with hypoactive delirium. Complete recovery was frequently achieved in cases with medication- and hypercalcemia-induced delirium, whereas a low remission rate was related to hepatic failure, dehydration, hypoxia, and disseminated intravascular coagulation. In conclusion, standard examinations can confirm factors potentially contributing to delirium and thereby predict the severity of agitation and clinical outcomes.

### **Comments:**

**Strengths/uniqueness:** This is a prospective study. It is important to emphasize that prospective studies on the assessment and management of delirium in end-of-life care are rare in the literature.

**Weaknesses:** Despite using validated instruments for the assessment of delirium severity, the observational assessment of these patients is not standardized, and there was no screening. This was not a longitudinal study and, therefore, merely captures a snapshot of the clinical picture. This is important when one is drawing conclusions regarding psychomotor activity, which is likely to fluctuate during the course of time. To their credit, the authors acknowledge most of the limitations of this study.

**Relevance to Palliative Care:** This study highlights the multifactorial nature of precipitating and contributing factors to the development and maintenance of a delirious state in patients with advanced cancer. The study also highlights the frequency of delirium in this population and the fact that it is often reversible in nature.