

## Journal Watch

### **Methylphenidate hydrochloride improves cognitive function in patients with advanced cancer and hypoactive delirium: a prospective clinical study**

Bruno Gagnon, Graeme Low, and Gil Schreier, *J Psychiatry Neurosci*. 2005 March; 30(2): 100–107.

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#### **Abstract**

To investigate the clinical improvement observed in patients with advanced cancer and hypoactive delirium after the administration of methylphenidate hydrochloride.

#### Methods

Fourteen patients with advanced cancer and hypoactive delirium were seen between March 1999 and August 2000 at the Palliative Care Day Hospital and the inpatient Tertiary Palliative Care Unit of Montreal General Hospital, Montréal. They were chosen for inclusion in a prospective clinical study on the basis of (1) cognitive failure documented by the Mini-Mental State Examination (MMSE), (2) sleep–wake pattern disturbances, (3) psychomotor retardation, (4) absence of delusions or hallucinations, and (5) absence of an underlying cause to explain the delirium. All patients were treated with methylphenidate, and changes in their cognitive function were measured using the MMSE.

#### Results

All 14 patients showed improvement in their cognitive function as documented by the MMSE. The median pretreatment MMSE score (maximum score 30) was 21 (mean 20.9, standard deviation [SD] 4.9), which improved to a median of 27 (mean 24.9, SD 4.7) after the first dose of methylphenidate ( $p < 0.001$ , matched, paired Wilcoxon signed rank test). One patient died before reaching a stable dose of methylphenidate. In the other 13 patients, the median MMSE score further improved to 28 (mean 27.8, SD 2.4) ( $p = 0.02$  compared with the median MMSE score documented 1 hour after the first dose of methylphenidate). All patients showed an improvement in psychomotor activities.

#### Conclusions

Hypoactive delirium that cannot be explained by an underlying cause (metabolic or drug-induced) in patients with advanced cancer appears to be a specific syndrome that could be improved by the administration of methylphenidate.

#### **Comments**

##### Strengths:

It is an interesting clinical study done in a tertiary palliative care setting  
Extensive work up has been done to exclude diagnoses other than hypoactive delirium.  
No competing interests for the authors of the trial

##### Weaknesses:

Open trial, researches not blinded to conditions  
Small sample size  
Further research is needed to confirm the hypothesis and potential benefits

##### Relevance to Palliative care:

Hypoactive delirium is a clinical syndrome which should be recognized. It is a significant source of suffering for patients and their families. This study presents one possible effective treatment that could be presented to patients and their families.