BRAIN IMAGING IN OLDER PATIENTS WITH DELIRIUM

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PROBLEM

Delirium is common, serious and costly condition in older patients admitted to the hospital. Delirium is a disturbance in attention and awareness which develops over a short period of time and fluctuates through the day. It occurs in 35 to 80% of critically ill patients. its annual cost to the healthcare system is approximately $38 billion to $152 billion. Prompt recognition and treatment is essential to decrease mortality and morbidity associated with it.

OBJECTIVE

To investigate the frequency and results of brain imaging in older patients with delirium as compared to those without delirium.

METHODS

This was a cross sectional study. Data was collected on hospitalized patients aged 65 year and older who were admitted to 3 hospitals in Milwaukee, WI during a one month period in the fall of 2013. Subjects were tested for delirium via the "Confusion Assessment Method" by researchers for another study. The Confusion Assessment Method is widely used to screen for delirium. The Acute Care for Elders (ACE) Tracker was used to collect patient information. The ACE tracker checklist is automatically created from the Electronic Medical Record (EMR). ACE Tracker checklist was created to improve the care of the elderly and may be used at the patient's bedside with no additional effort from the healthcare team. The collected data included demographics, presence of delirium, Computed Tomography (CT), Magnetic Resonance Imaging (MRI), and results of the imaging procedures. The imaging studies were done as a part of their medical care. The authors reviewed the radiologist's final readings of the imaging studies. For all category variables chi square/Fisher test was used with alpha 0.05.

RESULTS

A total of 92 patients were included in the study. The prevalence of delirium was 17.4%. The mean age was 77 years. Overall, 24% had a CT and 9% an MRI with the most common abnormal finding being chronic microvascular changes, 13%. CT scan was performed in 44% of patients with delirium and 20% of patients without delirium (p=0.04). MRI was performed in 0 patients with delirium and 11% without delirium (p=.34). When patients with delirium were compared with patients without delirium: normal imaging was described in 1 vs.2 patients (p= .70); cerebral atrophy in 3 vs. 6 (p=.99); chronic microvascular changes in 2 vs. 10 (p=.17; acute hematoma (subdural or intraparenchymal) in 3 (43%) vs. 0 (p=.02).

CONCLUSIONS

In this limited study, patients with delirium were noted to be more likely to have had a CT scan and have serious findings on brain imaging when compared to patients without delirium. Older patients with delirium had a variety of findings on brain imaging, some of which were more clinically relevant. The findings represents the urgent need to perform more brain imaging for patients who present with symptoms of delirium to prevent further brain destruction.