A Classic Case of Major Neurocognitive Disorder with Psychotic Agitation Requiring Medication Intervention with a Second Generation Antipsychotic

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HPI: The patient is a 70 year old Caucasian male admitted due to agitation and significant behavioral disturbances, including homicidal threats towards his wife. The primary team trialed him on Haldol 2mg IM and Ativan 2mg IM PRN agitation. He received two doses four hours apart, before being trialed on Seroquel 25mg qHS—this was subsequently escalated to 50mg the following day. The patient was noted to strike nurses, requiring a sitter and use of restraints as he was also pulling out IVs. Psychiatry was consulted due to difficulty controlling the patient's behaviors, as well as for concern over homicidal threats he had made towards his wife.

CT of head showed moderate frontotemporal cerebral atrophy. Area of encephalomalacia left anterior temporal lobe, likely related to prior ischemic infarction; no acute intracranial hemorrhage, significant mass effect or new large infarct.

Lab work was unremarkable and within normal limits.

Initial interview

Patient was irritable and actively hallucinating, often talking to the ceiling. Thought process is tangential and difficult to redirect; the patient states he "sees a picture of my father on the ceiling" and he is actively reaching for it.
Collateral from wife confirmed patient had history of CVA approximately 10 months prior and had gradually been deteriorating, which manifested as personality change, agitation and confusion, as well as threats of violence towards her. He was also reported to talk to himself occasionally at home, and he sometimes stated he saw ghosts in the house.

Hospital Course

The patient was diagnosed with Major Vascular Neurocognitive Disorder with behavioral disturbance and was started on Zyprexa Zydis 5mg ODT qHS due to his active hallucinations. Seroquel was discontinued. Zydis was utilized due to patient being NPO ; he was unable to complete swallow evaluation due to agitation.
He was noted to have improvement in his agitation after about three days, but was too sedated, often requiring nurses to feed him. His dose was decreased to 2.5mg PO qHS, and he tolerated the medication well without need for additional PRN antipsychotics.
He gradually became more aware of his surroundings, with improvement in his hallucinations. His sitter was discontinued prior to transfer to long-term nursing facility.

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Choosing an Antipsychotic: Risks and benefits

Under the American Psychiatric Association guidelines, treatment should be initiated at a low doses and titrated to the minimum effective dose as tolerated. Antipsychotics should be used only in case of emergency.

Evidence indicates that risperidone, olanzapine and aripiprazole exhibit modest benefits in the management of aggression and psychosis . There is insufficient information from trials of quetiapine to determine whether it was efficacious in treating either agitation or psychosis.

Haloperidol may be useful for acute delirium as it has little effect on the cardiovascular system and respiratory drive. and low anticholinergic activity. There is limited evidence for the use of these medications in vascular dementia.

There is a black box warning for all second-generation antipsychotics stating that they increase the risk for death. This class has been noted to increase the risk for pneumonia, cerebrovascular adverse events (CVAEs), Parkinsonism, sedation, gait disturbance, cognitive decline and sedation. Attempts should be made to taper and withdraw the medication within 4 months of initiation unless the individual experiences a recurrence of symptoms. (1,2)

Other factors when treating dementia-related agitation

Vascular risk factors, such as hypertension, diabetes, obesity, hypercholesterolemia, and stroke, should be treated properly with medication. Patient with dementia showed a higher risk for spontaneous emboli. This leads to a more rapid cognitive and functional decline and overall increase in behavioral and psychological symptoms. (3)
Sleep/wake cycle disturbances (SWDs) are also prominent in dementia. This may cause significant distress to both patients and caregivers, and can be a frequent reason for institutionalization. Treatment could involve bright light during the day, darkness at night, proper temperature regulation, and melatonin supplementation if necessary. (4)
The treatment of depressive symptoms with an SSRI, as well as use of memantine, and NMDA receptor antagonist, is noted to have modest efficacy in improving behavioral symptoms as well.
There is also limited appreciation of caregivers' ability to influence the occurrence and severity of these symptoms. Improving supportive networks for caregivers and focusing on communication with the care recipient and their caregiver can lead to improved outcomes. This can also help with overall caregiver burnout. (5)

References:
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(2) Antipsychotic use in dementia: a systematic review of benefits and risks from meta-analyses. Tampi RR, Tampi DJ, Balachandran S, Srinivasan S.Ther Adv Chronic Dis. 2016;7(5):229–245. doi:10.1177/2040622316658463
(3) Association of Cerebral Emboli With Accelerated Cognitive Deterioration in Alzheimer's Disease and Vascular Dementia. Nitin Purandare, Alistair Burns, Julie Morris, Ewan P. Perry, Joanne Wren, and Charles McCollum. American Journal of Psychiatry 2012 169:3, 300-308
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(5) Meta-Analysis of Nonpharmacological Interventions for Neuropsychiatric Symptoms of Dementia Henry Brodaty and Caroline Arasaratnam. American Journal of Psychiatry 2012 169:9, 946-953