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A quandary of symptoms: A case study of inter-professionalism

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Dementia differential: A case study

This case study illustrates the difficulty of diagnosing the older adult with an unusual combination of presenting complaints and untreated co-morbidities, and inter-professional collaboration within the home environment. G.H., a 75 year-old Caucasian male was referred to a nurse practitioner-owned house call practice in the Midwest since he had not left his home in over two years. The initial visits by the nurse practitioner (NP) focused on treating and stabilizing his uncontrolled medical diagnoses and later visits on resolving his dementia diagnosis using a collaborative approach, resulting in supportive treatment for patient and family.

Case history

The patient's spouse of 33 years was the primary source of information with an initial complaint of a decrease in G.Hs' interactions with his family, change in speech patterns, dietary rigidity, and lack of interest in activities over the past three years. The patient's spouse did not remember the progression of behaviors, but they included, not attending family gatherings, more dependent with activities of daily living (especially hygiene), a decline in personal interactions, and an onset of drinking four ounces of bourbon every night (rare alcohol intake previously). Then approximately one year ago he was unable to complete a banking transaction and asked his spouse to drive the car, both of which he did not attempt again.

Two years ago G.H. saw a neurologist for his tremors and behavioral changes for six months. Medical records reported a normal brain CT scan and abnormal word recall test. All lab tests were essentially normal with patient compliant with medications. An initial diagnosis of mild cognitive impairment was treated with rivastigmine patch and memantine with no relief of symptoms. Since the patient appeared to have depressive symptoms, escitalopram was prescribed without any noted improvement in behavior or mood.

G.Hs past medical history included hypertension, essential tremors, hypercholesterolemia, vitamin D deficiency and hypothyroidism as reported by spouse with unknown medications administered for these diagnoses over one year. He had no family medical history for dementia or mental illness. He has one brother with Parkinson's disease. He has four children from a previous marriage, all in good health. On exam in his home, G.H. would sit in his recliner watching sports television, and ambulated with walker only at nighttime for sleep. His effect was flat and was oriented to person, but not to place or time. He would recognize his spouse and relationship, but would not remember the NP at each visit. His speech was pressured and maintained no eye contact during interactions.

The NP stabilized his hypertension (202/112) with amlodipine 10 mg daily, Lisinopril 40 mg daily, and Clonidine 0.2 mg/24h patch weekly; hypercholesterolemia (LDL-184) with pravastatin 40 mg daily; hypothyroidism (TSH − 32.4) with levothyroxine 15 mcgs daily, and vitamin D deficiency (Vitamin D, 25-OH − 9) with vitamin D3 2000 IU daily over three months. Other initial labs to assess renal function, nutritional status, alcohol abuse, and cognitive issues were within normal limits. Since these medical diagnoses can be reversible causes of cognition impairment, they were evaluated and treated prior to further cognitive evaluation.[1]

After 3 months, G.H. continued with weight loss, dietary inflexibility (two Danish rolls and eight ounces of milk every morning with four ounces of bourbon daily x six months), repetitive and pressured speech patterns, increased insomnia, and withdrawal from spouse. There were no reported hallucinations, anxiety, or combativeness by spouse.

The refusal of G.H. to leave home in over two years complicated the diagnosis and management of his cognitive decline. Inter-professional collaboration between an NP (clinical history/management), home health (skilled services), and psychologist (neuropsychometric testing) was crucial for this patient in the home.[2] The NP obtained a thorough clinical history and stabilized

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G.H. medically. Home health services provided nursing, licensed social worker, aide, and therapy services, early in G.Hs plan of care. The psychologist's encounter consisted of a 3-h interview with spouse and psychometric testing with G.H. (information and orientation, word-list learning and memory, cognitive functioning, word/color naming, and neuropsychological measure that involves confrontation-naming tasks), that was limited by his cognitive behaviors.

The psychologist interpretative assessment of G.H. included an exhibited memory, comprehension, and language problem noted during the patient interview and limited cognitive and executive functioning testing (refusal and/or inability to respond to test items). G.Hs overall presentation and pattern of performance on the testing, coupled with observed and reported information regarding his functioning was suggestive of Frontotemporal dementia (FTD). His Global Assessment of Functioning (GAF) was 23.

G.H. has vascular risks for dementia; however there were no vascular events noted by his spouse. His regular alcohol use had an onset after he began demonstrating significant cognitive decline. The alcohol intake, concurrent with his change in food preferences, indicates the alcohol use was secondary to FTD rather than a primary cause of the dementia. G.Hs presentation was reminiscent of depression in terms of his flat affect and withdrawal from family and activities; however given his pattern of decline and cognitive deficits, these were more consistent with the language and executive functioning deficits noted in FTD.[3] Following an ongoing relationship with G.H., review of the literature, and discussion with the psychologist a diagnosis of FTD was considered by the nurse practitioner.[4]

Plan/discussion

The dementia differential diagnosis was complicated by G.Hs initial untreated hypertension and hypothyroidism. Other confounding factors included his alcohol use, progressive tremors, and limited previous medical history/neurological testing. G.Hs inability to leave home obscured the evaluation of his complex array of symptoms and treatment. The classic consensus statement clearly defined FTD as a diagnosis for G.H from other dementias.[5] G.H. did not exhibit some key behavioral features (hyperactive behavior, hypersexual behavior, and impulsive acts); however dietary compulsions with certain foods, excessive alcohol consumption, and watching sports television 20 h daily were noted early in his disorder. Other emotional symptoms included emotional blunting (loss of empathy/warmth towards his family), apathy or indifference in general, lack of insight, and mood changes.[4] Following successful treatment of his co-morbidities, there was limited success noted with behavioral treatments.

There are no FDA approved medication therapy for FTD patients. Current FTD treatment focuses on managing symptoms, primarily affecting behavior. Many Alzheimer's Disease (AD)-approved medications are widely used across the United States with good tolerability, but inconclusive effect on FTD patients.[6,7] Paroxetine has not been shown to be an effective treatment in FTD.[8] The use of trazodone for FTD behaviors has been shown to be well-tolerated with a significant improvement in behaviors, especially irritability, agitation, depressive symptoms, and eating disorders.[9] Most of the studies are limited by their small sample size. G.H. exhibited no behavioral improvement with the use of AD-approved medications or depressive symptoms with two selective serotonin reuptake inhibitors (SSRIs) prior to the NP home visits. Trazodone 100 mg at bedtime was well tolerated by G.H. and there was a notable improvement in his dietary habits and insomnia for eight weeks. There was marked improvement with G.Hs purposeful tremors with the use of propranolol. The literature supports the NPs experience with this patient's failed behavioral improvement with AD-approved and SSRI medications, along with the selected improvements with trazodone.

Additionally, family implemented the psychologist's non-pharmacological behavioral strategies which included: break down tasks into simpler steps, offer patient choices to respond (visual options and non-verbal options), limit options such as stating "come with me" rather than asking if patient wants to come, increase structure and routine in activities, and balanced rest with activities due to his executive functioning deficits. G.Hs spouse was instructed to water down the nighttime alcohol intake, since this can affect his cognitive function. G.Hs long term care benefits provided limited 24-h care/supervision with his activities of daily living in the home. In addition, the NP provided information to the spouse on support groups such as the Association for the Frontotemporal Degeneration (AFTD) and the Alzheimer's Association (AA) websites and contact information.[10,11] Ultimately, the NP accessed additional support for G.H. and his spouse in providing hospice care in the final three months of his life.

Conclusion

The NP developed a therapeutic relationship with G.H. and his family during a complex disease process facilitating inter-professional collaboration (nurse practitioner, home health services, psychologist, and hospice). During the end-stage of FTD, the NP advocated the spouse to seek legal and financial advice for long term care benefits and survivorship. Hospice provided regular additional family and emotional support. The take home message from this case study is that nurse practitioners provide support to patients and families in complex disease processes, using evidence-based practice, inter-professional collaboration, and advocacy for community resources.

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