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Family Consultation on Alzheimer's Diagnosis, Treatment, and Care Planning for Mrs Smith

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Abstract

This report presents an evaluation specifying diagnosis, management, prognosis, and care planning for Mrs. Smith, a patient diagnosed with moderately severe Alzheimer's Disease (AD). Mrs. Smith's diagnosis is corroborated by a Mini-Mental State Examination (MMSE) with a final score of 16/30 (3rd edition) and magnetic resonance imaging (MRI) diagnosis, which shows cognitive decline, and no indication that another form of dementia is the case. The report described a holistic, multidisciplinary assessment, management, and treatment of Mrs. Smith that provides a mix of pharmacological managements/medications that include treatment such as cholinesterase inhibitors (e.g., donepezil), N-methyl-D-aspartate (NMDA) receptor antagonists (e.g. memantine), along with non-pharmacological approaches including Cognitive Stimulation Therapy (CST), Reminiscence Therapy (RT) and alterations to the environment for safety. The prognosis discussed, being the progressive nature of AD, is different for different individuals, and ranges from some suggesting short lives (e.g., 2-4 years) to others [Sheikh, 2020; Majeed, et al., 2021] indicating average life expectancy based on different factors such as age of diagnosis, care assessments, comorbidities, and general life quality. Coordination of care among respective family designated "care providers" provides management of symptoms and improves quality and lives of formers. Coordination in attendant and other family resources, includes considerations for seeing Mrs. Smith as the progressive disease advances, and the long-term care for the advancement is difficult to understand unless and until a health directive involved an advanced care planning approach iterated Lpast for a Lasting Power of Attorney (LPA). The report recognizes those managing dementia from regional perspectives, explaining and understanding the challenges of managing the complexities of dementia patients. The report recognizes that early identification can be a means to improve community cognizance of dementia, family members awareness of dementia and respite care, and general population understanding of dementia and supports available with tailored approaches specific to patient's and caregivers needs. The goal of this collaborative process is to slow the trajectory of the disease, maintain dignity, and support Mrs. Smith and her family in a holistic manner as she through her journey of AD.

Keywords: Alzheimer's disease, Dementia care, Multidisciplinary approach, Pharmacologic treatment, non-pharmacologic interventions, Prognosis, Advanced directives.

Introduction

Good morning, everyone, we are a group of Geriatricians (Health-care professional group), and we sincerely appreciate your attendance today. We are delighted to welcome you all and are excited to present on the diagnosis of moderately severe Alzheimer's dementia (AD). Thank you for your patience and for staying with us until the end of our presentation. I understand that receiving a diagnosis of moderately severe AD for Mrs Smith has been overwhelming, and it is natural to have questions and uncertainties. Today, we will revisit key aspects of her diagnosis, treatment, prognosis, and care plan. AD is a progressive neurodegenerative disorder characterised by cognitive decline, memory impairment, and difficulties with daily functioning [1]. Mrs Smith's Mini-Mental State Examination (MMSE) score of 16/30 and Magnetic resonance imaging (MRI) findings confirm the diagnosis, indicating the need for a structured approach to her care. In the United Kingdom, Alzheimer's is the most common cause of dementia, affecting nearly 60% of individuals diagnosed with the condition [2]. Early diagnosis and intervention can significantly improve the quality of life for patients and their caregivers. In Africa, the burden of dementia is growing, with stigma and limited healthcare infrastructure contributing to late presentations and underdiagnosis [3]. Addressing these challenges requires both community education and enhanced healthcare access.

Our aim today is to ensure Karen, as part of Mrs Smith's support system, understands the disease and feels equipped to contribute to her care. We will discuss non-pharmacological interventions, such as memory aids and structured routines, alongside pharmacological treatments like cholinesterase inhibitors, which have been shown to slow symptom progression [4]. Additionally, we will explore ways to maintain Mrs Smith's independence and dignity while reducing the burden on her family. We encourage you to ask questions throughout this discussion to ensure you leave with a comprehensive understanding of the situation. Please remember that we are here to support you at every step of this journey.

Diagnostic Justification

Based on the information provided, it is evident that Mrs Smith has moderately severe AD. This diagnosis is suggested by her MMSE score of 16/30, which is further supported by her MRI scan results. An MMSE score between 10 and 18 indicates moderate cognitive impairment [5]. Dementia is common among older individuals, with age being the most significant risk factor for its development, as in this index case (Alzheimer's Association, 2019).

Clinical history and Examination

Since there is no single definitive test for diagnosing dementia, the diagnosis is made through a combination of cognitive assessment test like the MMSE, general examinations and investigations. The criterion for diagnosis which includes: 1) symptoms, which interfere with her ability to carry out daily activities over a period of months or years. 2) A decline from her previous level of functioning not attributed to acute delirium or other causes 3) cognitive decline involving at least two cognitive domains. Mrs Smith's reliance on her husband and daughter to comprehend the information provided may indicate impairments in her memory, attention and reasoning abilities. 4) Lastly, supported by objective cognitive assessments tests, examinations, or neuropsychological testing as evidenced by a MMSE of 16/30 in this scenario [6,7].

Confirming the diagnosis

The MMSE is highly sensitive for assessing moderately severe dementia, making it particularly appropriate for this case, as compared to its use in early dementia or mild cognitive impairment [8]. The next step in confirming this diagnosis involves ruling out other potential causes of cognitive impairment, such as delirium, through necessary examinations and investigations. As AD is the most common form of dementia, it is important to distinguish other potential subtypes of dementia in Mrs Smith's case, such as vascular dementia, mixed Alzheimer's/vascular dementia, frontotemporal dementia, and Lewy body dementia (LBD) [9]. Combining structural neuroimaging with her initial clinical assessment enhances diagnostic accuracy by providing a positive predictive value and helping to refine the diagnosis of dementia [10].

Role of Neuroimaging

MRI scanning in dementia is not compulsory but useful for two main reasons [11]: 1) to rule out other potential causes of cognitive impairment, such as inflammatory, metabolic, toxic, or infectious processes, and 2) to help suggest the type of dementia.

Neurodegenerative MRI findings that may be observed include generalised brain atrophy, which is typically non-specific and can be seen in AD, LBD, vascular dementia, and normal ageing. Focal lobar atrophy, particularly in the frontal and temporal lobes, can indicate frontotemporal dementias [12], while hippocampal atrophy is often associated with AD [13]. While negative MRI findings do not completely rule out dementia, they can be repeated after 6 to 12 months. Additionally, further neuroimaging techniques, such as fluorodeoxyglucose-positron emission tomography scan (FDG-PET) or single-photon emission computed tomography (SPECT), perfusion or the use of cerebrospinal fluid biomarkers, can provide more information [10].

In Mrs Smith's case, the diagnosis of Moderately severe dementia is justified based on her positive cognitive assessment test, further supported by MRI scan findings.

Medical interventions

The primary treatment for Mrs Smith is aimed at slowing the progression of her AD, managing symptoms, and improving her quality of life [14]. Acetylcholine (ACh), a neurotransmitter critical for memory and cognition, is depleted in AD [15].

Cholinesterase inhibitors like donepezil, rivastigmine, and galantamine block the enzyme acetylcholinesterase, which breaks down ACh, thereby increasing its availability in the brain [16]. For Mrs Smith, donepezil is an option, as it improves memory, cognitive function, and daily living activities in moderate AD [17].

However, the side effects listed in Table 1 must be monitored closely [17]. As AD progresses, excessive glutamate activity can lead to neuronal damage. Memantine, an N-methyl-D-aspartic acid (NMDA) receptor antagonist, regulates glutamate levels. [18]. For Mrs Smith, memantine may be added alongside donepezil to manage cognitive symptoms, improve functional ability, and alleviate agitation [19]. The combination of donepezil and memantine has been shown to slow disease progression in moderate-to-severe Alzheimer's [19].

Medication	Purpose	Benefits	Potential Side Effects	Considerations
Donepezil	Cholinesterase inhabitor	Improves memory, cognition, daily living	Nausea, bradycardia	Monitor for side effects like nausea, especially at higher doses
Memantine	NMDA receptor antagonist	Regulates glutamate, slows disease progression	Agitation, dizziness	Use in Combination with donepezil for better outcomes

Table 1: A summary of the pharmacological treatments, including their benefits, side effects, and key considerations for managing Mrs Smith [16,17].

Behavioural and psychological symptoms such as aggression, delusions, and agitation are common in moderate AD [20]. In Mrs Smith's case, if these symptoms develop, antipsychotic medications, such as risperidone or olanzapine, could be considered, although they should be used cautiously due to their adverse effects, including sedation and increased mortality in older adults [21].

Additionally, given the high incidence of depression and anxiety, Mrs Smith may benefit from selective serotonin reuptake inhibitors such as sertraline, which addresses depressive symptoms, and anxiolytics such as lorazepam, which may help manage anxiety [22]. Both classes of drugs must be prescribed carefully due to their potential cognitive side effects [22]. However, a combination of pharmacological and non-pharmacological interventions may be necessary to overcome these symptoms. Cognitive Stimulation Therapy (CST) involves structured activities that stimulate thinking, memory, and social interaction [23]. Although typically used in early Alzheimer's, it remains beneficial in the moderate stage by improving cognitive function and quality of life [24]. Activities in CST may include memory games, puzzles, or group discussions that promote engagement and reduce isolation [23].

Given Mrs Smith's age and potential retention of long-term memories, Reminiscence Therapy (RT) could be effective [25]. RT aids the individual in reflecting on meaningful life events using photographs or personal stories, which can enhance communication, reduce depression, and improve mood [26]. This therapy supports a sense of identity and continuity for Mrs Smith, which is critical in the later stages of dementia [26]. Validation Therapy (VT) focuses on acknowledging and validating the emotional experience of individuals with AD, especially when they exhibit challenging behaviours [27]. It differs from traditional therapeutic approaches by avoiding confrontation or correction and accepting the patient's reality as valid [28]. This is therapy is beneficial in managing behaviours such as confusion, agitation, and distress that commonly arise in moderate to severe stages of AD [28].

VT can support Mrs Smith in managing potential behavioural and psychological symptoms. As Alzheimer's progresses, individuals often experience loss of orientation, confusion, or difficulty communicating, leading to emotional distress [28].

Regular physical activity, including walking or light stretching, has proven beneficial for Alzheimer's patients. For Mrs Smith, regular light exercise can improve mood, cognitive function, and mobility and reduce agitation [29].

Environmental adjustments should be considered in Mrs Smith's home to ensure safety and minimise confusion. These might include clear pathways, appropriate lighting, and memory aids like clocks or calendars. Simplifying the living space can enhance Mrs Smith's independence, reduce disorientation, and provide a more supportive environment for her day- to-day activities [30].

Mrs Smith's treatment plan should be coordinated by a multidisciplinary team, as listed in Table 2, to ensure that her condition and care plan are adjusted as her disease progresses. Regular assessments ensure that her cognitive, behavioural, and functional needs are addressed comprehensively [31].

Team Member	Role	Contribution to Mrs Smith's Care
Geriatrician	Medical Management of aging-related issues	Monitoring overall health, prescribing medications
Neurologist	Management of AD	Prescribing AD medications, monitoring cognitive decline
Nurses	Ongoing patinet Care	Administering medications, monitoring side effects
Occupentional Therapists	Enhancing daily living activities	Recommended home adjustments, assit with physical exercises

Speech Therapists	Addressing communication difficulties	Improving Communication, addressing swallowing problems

Table 2: A summary of each team member’s role in Mrs Smith’s care [31].

Prognosis

Following the evaluation of Mrs Smith, it is essential to explain the course and prognosis of AD to the family in order to prepare them for the supportive role they will play in the course of the management. Having moderate to severe AD entails that she may be having greater memory loss, progressive confusion, poor judgement, communication challenges, and a decline in her physical activities, and she may require assistance to carry out basic activities of daily living [32]. AD is an irreversible condition and progressive in nature, though the level of progression varies among individuals depending on several factors such as the level of care and support, the age at diagnosis and how rapidly the disease has progressed from diagnosis, untreated background medical conditions, and the lifestyle practices of the patient [33]. These factors must be explored and appropriately addressed in the case of Mrs Smith in order to improve her condition. Also, the importance of family and social support needs to be emphasised because of the huge difference in terms of improvement in the quality of life of patients with AD. The progression of AD varies, as mentioned earlier; however, on average, the life expectancy following diagnosis is between three and 11 years, but some live for up to 20 years or even more [32]. Studies have demonstrated that the main predictor of life expectancy is the age at diagnosis, which is higher for those diagnosed in their 60’s and early 70s and much less (about 3 years) for those diagnosed in their 90’s [34]. Other variables that can further reduce the life expectancy include untreated vascular risk factors such as hypertension and dyslipidemia. These have to be emphasised to Mr and Mrs Smith so as to encourage treatment adherence for any underlying medical condition.

Because of the progressive nature of AD towards the later stage, patients can exhibit symptoms of anxiety, depression, insomnia, agitation, and even paranoia [35]. Progression of the condition to difficulties with walking and swallowing may eventually develop in the course of the illness. This might lead to feeding difficulties necessitating gastrointestinal tube feeding, and difficulties with swallowing can predispose to aspiration pneumonia, which is mostly the primary cause of death in AD [35]. Other common causes of death include dehydration, malnutrition, falls, and other infections. Proactive measures should be instituted for identifying these common causes of death so as to improve the life expectancy of Mrs Smith.

Future Care Plans

Speaking about Mrs Smith's care plan; first, lets briefly go over the importance of having one. Anyone diagnosed with Dementia should have a care plan in place; moving ahead, Mrs Smith's health would change and will call for possible future modifications affecting all members of the family. A care plan reduces anxiety and uncertainty [36,37] which improves quality of life [38,39]; it also helps to ensure appropriate time for the preparation which would be centered on Mrs Smith [40]; it would also help to enable timely pharmacological and psychological support.

The advanced care plan would include future plans and support including what medical treatment and end-of-life choices would be (Dementia UK). Mrs Smiths would need a committed care co-ordinator to help her understand her rights, give information on pertinent services, and provide specifics on community advocacy programmes. This would need everyone, including Mrs Smith and the rest of the family, to agree; a copy of the care plan would then be handed to yourselves. The key component of this would be follow-up for reevaluation with the general practitioner or memory clinic, any ongoing medical problems and resulting adverse effects. Mrs Smith would need assessments for her medications; which could be acetylcholinesterase inhibitors donepezil, galantamine, and rivastigmine are indicated for the management of mild to moderate AD it will depend on her assessments and decision by the

memory clinic consultant of what treatment she would require as per the type of Dementia [38].

Mrs Smith will be directed to programs to enhance her cognitive abilities, including CST treatment, group RT, cognitive rehabilitation, and occupational therapy, to preserve her functional capacity. She may also need therapy of additional symptoms such as agitation and aggressiveness. Additional aspects to consider about the underlying cause include pain, infection, environmental influences, drugs, medical disorders, nutritional deficiencies, constipation, sleeplessness, despair, or anxiety, which often exacerbate symptoms [38]. Numerous advantages may be beneficial in the future, including attendance allowance, carer's allowance, carer's assessment, and financial and legal assistance, such as lasting power of attorney for health and funds. Additional assistance is accessible in the community, including befriending programs, day centres, dementia support groups, and telecare services. Occupational therapists might evaluate the home environment to ensure that Mrs Smith can safely remain and function in her residence with the necessary modifications. Social services may provide assistance to carers if needed (Finding Aid and Support at Home. Dementia UK). We may provide you with Advice leaflets, Advice videos, and literature about dementia to ensure you remain well-informed for future reference.

Advance Directives

It is really important your mum is involved with her future care/decisions. I wanted to discuss a thing called advanced directives. First of all, check Karen's understanding/ any experience with same?. Firstly, we assess your mum's capacity which is her ability to weigh up and retain information long enough to make an informed decision about her health, welfare and finances. Dementia is a condition that, as her symptoms progress over time, she may not always be able to make these decisions, so it is so important we have these discussions and make plans through an advanced directive (AD). AD refers to legal documents that can be constructed to outline Mrs Smith's preferences in relation to future care/ treatment and an opportunity for one or multiple people to make these decisions in the future if/when the time comes, and she is unable to [41]. AD can give peace of mind to the family and Mrs Smith that her future wishes will be respected.

Lasting power of attorney (LPA) is a legal document where Mrs Smith can choose one or more people to act on her behalf when she is not able to make decisions. Unknown too many, Mr Smith's husband does not automatically be granted permission about her health, bank accounts or finances. (www.alzheimers.org.uk). Two types of LPA; Health and welfare (Medical care/treatment, life-sustaining treatment, moving to a care home). Property and financial affairs (Manage bills, bank accounts/pensions). Mrs Smith can choose to do one or both, have the same person/people or different. If she has not made a will, it would be recommended to ensure her money possessions go to who she would like, as without a will, the State makes that decision. All these directives should be reviewed regularly, and changes can be made where Mrs Smith can show she understands of its effect [42].

Conclusion

In conclusion, while AD presents significant challenges, both for patients and their families, a collaborative approach can make a meaningful difference. Mrs Smith's care plan will focus on slowing the progression of her symptoms, enhancing her quality of life, and providing tailored support to her family. In the UK, multidisciplinary care models and support networks are well-established, offering families access to memory clinics, community resources, and guidance [38]. In Africa, addressing dementia requires overcoming barriers such as stigma and limited resources, highlighting the importance of family involvement and community-based care initiatives [3]. As Mrs Smith's care progresses, we will provide regular follow-ups and remain accessible to address any concerns. It is essential to recognise that dementia is a journey that requires patience, adaptability, and support. Please know that you are not alone in this process. Our team will work with you to ensure Mrs Smith receives the best possible care and that her dignity and well-being remain our priority.

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