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PROGRESSIVE SUPRANUCLEAR PALSY AND DEMENTIA – LITERATURE REVIEW

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Abstract: Introduction: Progressive supranuclear palsy is a degenerative disease of the brain, basal ganglia and brainstem, which progressively impairs voluntary eye movements and causes bradykinesia, muscle rigidity with progressive axial dystonia, pseudobulbar palsy and dementia (Höglinger GU, et al, 2017). **Objective**: Review the relationship between progressive supranuclear palsy and dementia. **Result**: The first symptoms may be difficulty looking up or down without moving the neck or difficulty going up and down stairs. Movements become slow and axial dystonia develops and patients tend to fall backwards. Repeated falls are common due to postural instability (Höglinger GU, et al., 2017). **Conclusion**: Dysphagia, dysarthria with emotional lability (pseudobulbar palsy), depression, and disordered sleep are common. Resting tremor may develop. Eventually, dementia occurs. Many patients become disabled within about 5 years and die within approximately 10 years (Adachi M, et al., 2004).
Keywords: Cognitive impairment; Progressive Supranuclear Palsy; Therapy.

INTRODUCTION

There are a series of dementias caused by lack or excess of bodily substances, whether hormones, vitamins, infections, tumors or pathological conditions (LEIVAS EFL, 2021).

Examples of treatable dementias include hypothyroidism, vitamin B12 deficiency, neurosyphilis, AIDS, brain tumors, normobaric communicating hydrocephalus, etc. (LEIVAS EFL, 2021).

Every patient with dementia must undergo investigation of all these causes; An exception is made for anti-HIV, which requires the patient's consent. Therefore, we have to request, at the first consultation, free T4, TSH, serum B12 measurement, VDRL and head CT with and without contrast. Other causes of reversible dementia are alcoholism and excessive use of Central Nervous System medications, such as benzodiazepines (LEIVAS EFL, 2021).

Dementia is a syndrome with multiple causes, characterized by the acquired deterioration of cognitive abilities that impair daily activities. In addition to memory, other mental functions are affected, such as language, visio-spatial skills, calculations and problem solving. Neuropsychiatric and social problems also arise, leading to symptoms such as depression, withdrawal, hallucinations, delusions, agitation, insomnia and disinhibition (CARONI, et al., 2023).

The most common causes of dementia in individuals over 65 years of age are: Alzheimer's disease (AD) (which accounts for approximately 60 percent), vascular dementia (15 percent), and mixed vascular and Alzheimer's dementia (15 percent).). Other diseases accounting for approximately 10% include dementia with Lewy bodies; Picks disease; fronto-temporal dementias; normal pressure hydrocephalus (NPH); alcoholic dementia; infectious dementia, such as human immunodeficiency virus (HIV) or syphilis; and Parkinson's disease (BATES et al., 2004).

Progressive supranuclear palsy is a degenerative disease of the brain, basal ganglia and brain stem, which progressively impairs voluntary eye movements and causes bradykinesia, muscle rigidity with progressive axial dystonia, pseudobulbar palsy and dementia, a condition very similar to that of the disease. Parkinson's disease (Höglinger GU, et al., 2017).

The etiology of progressive supranuclear palsy is unknown, but it is known that degeneration of neurons occurs in the basal ganglia and brain stem, and neurofibrillary tangles containing a tau protein with anomalous phosphorylation are present (Adachi M, et al., 2004).

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looking up or down without moving the neck or difficulty going up and down stairs. Movements become slow and axial dystonia develops and patients tend to fall backwards. Repeated falls are common due to postural instability (Höglinger GU, et al., 2017).

Dysphagia, dysarthria with emotional lability (pseudobulbar palsy), depression, and disordered sleep are common. Resting tremor may develop. Eventually, dementia occurs. Many patients become disabled within about 5 years and die within approximately 10 years (Adachi M, et al., 2004).

The diagnosis of progressive supranuclear palsy is clinical and magnetic resonance imaging (MRI) is usually done to exclude other diseases. In advanced cases, MRI shows a characteristic decrease in the size of the midbrain that is best seen in mid-sagittal views and which causes the midbrain to be shaped like a hummingbird or emperor penguin (Adachi M, et al., 2004).

Some medications, such as levodopa and amantadine, can be used to partially relieve muscle stiffness. However, it is important to note that these medications may not provide complete relief of symptoms (Adachi M, et al., 2004).

Physical therapy and occupational therapy play a vital role in treating PSP. They are intended to help patients improve mobility, muscle function, and the ability to perform everyday tasks. Additionally, these therapies may help reduce the risk of falls, which are common in people with PSP due to balance difficulties (Höglinger GU, et al., 2017).

Due to the fatal nature of PSP, it is critical to encourage patients to plan their medical care in advance as soon as the disease is diagnosed. These advance directives are important and must clearly state what types of medical care the patient does or does not want to receive at the end of life. This may include decisions about aggressive treatments, palliative care, and hospitalization (Adachi M, et al., 2004).

MATERIAL AND METHODS

The search was carried out in the PubMed database and was limited to articles between 2004 and 2023 that met the criteria of being literature reviews and case reports.

Next, the keywords in the article titles were analyzed and those whose themes best fit our objective were selected.

5 articles were selected for full reading.

DISCUSSION

Due to the fatal nature of PSP, it is critical to encourage patients to plan their medical care in advance as soon as the disease is diagnosed. These advance directives are important and must clearly state what types of medical care the patient does or does not want to receive at the end of life. This may include decisions about aggressive treatments, palliative care, and hospitalization (Adachi M, et al., 2004).

CONCLUSION

Dysphagia, dysarthria with emotional lability (pseudobulbar palsy), depression, and disordered sleep are common. Resting tremor may develop. Eventually, dementia occurs. Many patients become disabled within about 5 years and die within approximately 10 years (Adachi M, et al., 2004).

REFERENCES

1. BATES, J., J. Boote e C. Beverley. Intervenções psicossociais para pessoas com doença demencial mais branda: uma revisão sistemática. **Revista de Enfermagem Avançada**. 2004.

2. CARONI, Danielly; RODRIGUES, Júlia Stuchi; SANTOS, Aliny Lima. Influência da alimentação na prevenção e tratamento do Alzheimer: uma revisão integrativa. **Research, Society and Development**, v. 12, n. 5, p. e14812541677-e14812541677, 2023.

3. LEIVAS, Elizabete De Figueiredo. A deficiência da Vitamina B12 no surgimento de demência em idosos: Uma revisão da literatura.

4. Höglinger GU, Respondek G, Stamelou M, et al: Clinical diagnosis of progressive supranuclear palsy: The Movement Disorder Society criteria. **Mov Disord** (32) 6:853–864, 2017. Epub 2017 May 3. doi: 10.1002/mds.26987

5. Adachi M, Kawanami T, Ohshima H, et al: Morning glory sign: a particular MR finding in progressive supranuclear palsy. **Magn Reson Med Sci 3** (3): 125–132, 2004.