

DEMENTIA DUE TO NORMAL PRESSURE HYDROCEPHALUS – LITERATURE REVIEW

Alicia Viviana Mendez

Doctor by: Universidad técnica privada
Cosmos, Puerto Quijarro, Bolivia
``Universidade Federal do Catalão``
Catalão, Goiás, Brazil

Janeide Albuquerque Cavalcanti

Biomedicine student - Universidade Federal
de Campina Grande, Campina Grande, PB,
Brazil
``Universidade Federal do Catalão``
Catalão, Goiás, Brazil

Aline Cicilia Oliveira Dos Santos Guimarães

Student of medicine course - Faculdade de
Ciências Médicas de Jaboaão, Jaboaão dos
Guararapes, PE, Brazil
``Universidade Federal do Catalão``
Catalão, Goiás, Brazil

Samantha Cristina da Silva Chaves

Student of medicine course - Universidade
Federal de Catalão, Catalão, GO, Brazil
``Universidade Federal do Catalão``
Catalão, Goiás, Brazil

Adrian Emanuel Rosales Mendez

Clinical neuroscientist at: Universidade de
Roehampton, London, United Kingdom
``Universidade Federal do Catalão``
Catalão, Goiás, Brazil

Camilla Siqueira de Freitas Gois

Student of medicine course - Faculdade de
Ciências Médicas de Jaboaão, Jaboaão dos
Guararapes, PE, Brazil
``Universidade Federal do Catalão``
Catalão, Goiás, Brazil

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Emerson Pellin

Student of medicine course - Universidade do Oeste de Santa Catarina, Joaçaba, SC, Brazil

``Universidade Federal do Catalão``
Catalão, Goiás, Brazil

Aliana Lunardi Zvicker

Doctor by: Pontifícia Universidade Católica, Curitiba, PR, Brazil

``Universidade Federal do Catalão``
Catalão, Goiás, Brazil

João Vitor Manetti Manganotti

Student of medicine course - Universidade Cesumar, Maringá, PR, Brazil

``Universidade Federal do Catalão``
Catalão, Goiás, Brazil

Gisely da Silva Reis

Biodoctor by: Faculdade Pitágoras, São Luiz, MA, Brazil

``Universidade Federal do Catalão``
Catalão, Goiás, Brazil

Gabriel Jonas Francisconi

Student of medicine course - Universidade Cesumar, Maringá, PR, Brazil

``Universidade Federal do Catalão``
Catalão, Goiás, Brazil

Jordana Cristina Souza Lopes

Student of medicine course - Instituto Master de Ensino Presidente Antônio Carlos, Araguari, MG, Brazil

``Universidade Federal do Catalão``
Catalão, Goiás, Brazil

Fábio Luiz Barbosa de Oliveira

Student of medicine course - Centro Universitário FAMETRO, Manaus, AM, Brazil

``Universidade Federal do Catalão``
Catalão, Goiás, Brazil

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Abstract: Introduction: Hydrocephalus is a neurological condition with several causes, where cerebrospinal fluid accumulates abnormally, resulting in serious health risks and high treatment costs. **Objective:** To review the relationship between normal pressure hydrocephalus and dementia. **Result:** This condition is classified as a form of dementia and its prevalence increases with age. This occurs mainly due to problems in the circulation of cerebrospinal fluid (CSF), without a significant increase in intracranial pressure. Typical clinical symptoms include walking difficulties, urinary incontinence and dementia, known as Hakim's Triad (PASSOS-NETO CEB, et al., 2022). **Conclusion:** the disease can be diagnosed prenatally or in neonates using USG, and in older children and adults using CT or MRI (PASSOS-NETO CEB, et al., 2022).

Keywords: Pseudodementia; Cognitive impairment; Normal Pressure Hydrocephalus.

INTRODUCTION

There are a series of dementias caused by lack or excess of bodily substances, be they hormones, vitamins, infections, tumors and 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).

Hydrocephalus is a neurological condition with several causes, where cerebrospinal fluid accumulates abnormally, resulting in serious health risks and high treatment costs. The main approach is surgery, which is classified as malabsorption, secretory or obstructive (DE SOUZA GR, et al., 2022).

In a different way, normal pressure hydrocephalus is related to dementia. In the acute phase, this condition requires surgical intervention. In chronic cases, monitoring is done through clinical treatment. A promising approach involves aquaporins, especially aquaporin 1 and aquaporin 4, which have therapeutic potential by acting on the central nervous system, regulating the production and absorption of cerebrospinal fluid (DE SOUZA GR, et al., 2022).

The incidence of hydrocephalus is not influenced by sex, but in normal pressure hydrocephalus, there is a slight prevalence in

males. This condition is classified as a form of dementia and its prevalence increases with age. This occurs mainly due to problems in the circulation of cerebrospinal fluid (CSF), without a significant increase in intracranial pressure. Typical clinical symptoms include walking difficulties, urinary incontinence and dementia, known as Hakim's Triad (PASSOS-NETO CEB, et al., 2022).

The diagnosis of hydrocephalus does not require laboratory testing and findings such as changes in the blood count are usually non-specific, but imaging tests are of interest, especially computed tomography (CT), magnetic resonance imaging (MRI) and ultrasound (USG). Therefore, the diagnosis of the disease can be carried out prenatally or in newborns using USG, and in older children and adults using CT or MRI (PASSOS-NETO CEB, et al., 2022).

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.

Five articles were selected for full reading.

DISCUSSION

A very controversial issue, but at the same time of great clinical significance, is the possibility of recovery from disorders. From a clinical point of view, the key question is to determine whether the therapeutic intervention, based on treatment, results in the resolution of already evident cognitive disorders (CARONI, et al., 2023).

CONCLUSION

This condition is classified as a form of dementia and its prevalence increases with age. This occurs mainly due to problems in the circulation of cerebrospinal fluid (CSF), without a significant increase in intracranial pressure. Typical clinical symptoms include

walking difficulties, urinary incontinence and dementia, known as Hakim's Triad. The diagnosis can be made prenatally or in neonates using USG, and in older children and adults using CT or MRI (PASSOS-NETO CEB, et al., 2022).

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