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ORIGINAL ARTICLE

Microsurgical treatment of trigeminal neuralgia in patients older than 70 years: An efficacy and safety study☆

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KEYWORDS
Trigeminal neuralgia;
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Abstract
Introduction: The increasing incidence of trigeminal neuralgia (TN) with age together with population ageing call for reexamination of surgical treatment options for refractory TN in elderly patients.
Methods: Retrospective review of a consecutive series of patients older than 70 who underwent microvascular decompression (MVD) for refractory TN between 1997 and 2015. Outcomes based on the Barrow Neurological Institute pain intensity score (BNI score) and surgical complications were compared to those of patients younger than 70 undergoing MVD in the same period.
Results: Forty patients older than 70 (mean = 74.8 years) underwent interventions. At a mean follow-up time of 34 months, 73% of the patients presented complete absence of pain without medication (BNI I) and 85% had good pain control with or without medication (BNI I-III). A comparison of these patients with the 85 patients younger than 70 treated surgically during the same period did not find a significant association between age and achievement of pain control (BNI I-II). However, there was a significant association between age older than 70 and complete pain relief (BNI I; $P = .03$). The mean hospital stay in patients over 70 was also significantly longer ($P = .04$), although the postsurgical complication rate was similar to that in younger patients.
Conclusions: Elderly patients with refractory TN may benefit from treatment with MVD and the probability of success and surgical risk are comparable to those in younger patients.

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PALABRAS CLAVE
Neuralgia del trigémino;
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Tratamiento microquirúrgico de la neuralgia trigeminal en mayores de 70 años, estudio de eficacia y seguridad

Resumen
Introducción: El incremento de la incidencia de la neuralgia del trigémino (NT) con la edad junto con el creciente envejecimiento poblacional obligan a valorar las opciones de tratamiento quirúrgico de la NT refractaria en pacientes mayores.
Métodos: Se revisó retrospectivamente una serie consecutiva de pacientes mayores de 70 años con NT refractaria tratados mediante descompresión microvascular (DMV) entre 1997 y 2015. Los resultados según la escala de dolor facial del Barrow Neurological Institute (BNI score), así como las complicaciones quirúrgicas, se compararon con los de pacientes menores de 70 años operados durante el mismo período.
Resultados: Fueron intervenidos 40 pacientes mayores de 70 años (media 74,8 años). A los 34 meses de seguimiento medio, el 73% de los pacientes presentaba ausencia completa del dolor sin medicación (BNI I) y el 85% tenía un control del dolor sin o con medicación (BNI I-III). Comparando con 85 pacientes menores de 70 años intervenidos en el mismo período no se demostró una asociación significativa entre la edad y la obtención de un control del dolor (BNI I-III), pero sí entre la edad mayor de 70 años y la desaparición del dolor (BNI I; P = 0,03). La estancia media en mayores de 70 años fue significativamente mayor (P = 0,04), aunque la tasa de complicaciones posquirúrgicas fue similar a la de los pacientes más jóvenes.
Conclusiones: Las personas de edad avanzada con NT refractaria pueden beneficiarse de un tratamiento mediante DMV con una probabilidad de éxito y unos riesgos equiparables a los de personas más jóvenes.

Introduction

Trigeminal neuralgia (TN) is a unilateral disorder characterised by paroxysmal, electric shock-like pain of abrupt termination limited to the territory of one or more branches of the trigeminal nerve.[1] It is a rare condition, with an estimated annual incidence of 4.3-4.7 cases per 100 000 population. It typically appears in adults older than 50. Its incidence has been found to increase with age up to rates of 17.5 and 25.6 cases per 100 000 population in patients older than 60 and 70 years, respectively.[2–4]

Microvascular decompression (MVD) is the only surgical treatment targeting the aetiology of TN; its immediate and long-term effectiveness makes it the treatment of choice for patients with refractory pain.[5–9] However, this procedure has been ruled out for elderly patients due to the risk of developing such complications associated with microsurgical treatment of the posterior fossa as cerebellar haemorrhage, cranial nerve damage, or ischaemic events. Age, combined with presence of diseases increasing the anaesthetic risk, has been considered one of the main contraindications of MVD for classical TN. In general terms, the maximum age for indicating MVD is 70.[10] Several authors recommend ablation therapy (radiosurgery, percutaneous rhizotomy of the gasserian ganglion) as the first line of treatment in these patients.[11–14]

We present our experience with a series of consecutive patients aged 70 years and older with refractory classical TN who were treated with MVD and compare outcomes and complications with those experienced by younger patients.

Patients and methods

We retrospectively gathered data of all patients with classical TN treated with MVD at Hospital General Universitario Gregorio Marañón between January 1997 and June 2015. Data were obtained from medical histories, surgical reports, and outpatient follow-up reports, as well as from telephone interviews with patients who have undergone surgery between 1997 and 2009. Since 2010, the database includes and updates data from all new patients with TN undergoing MVD. All patients included in the database had a diagnosis of classical TN refractory to medical treatment according to the criteria of the third edition of the International Classification of Headache Disorders (ICHD-3 beta)[1] and they all had undergone neuroimaging tests, especially magnetic resonance imaging, to rule out presence of TN secondary to other conditions. The treatment protocol of our department establishes MVD as the first surgical option since this technique has greater long-term effectiveness according to the literature and due to our vast experience with this procedure. Percutaneous rhyzotomy and radiosurgery are recommended only for those patients with severe comorbidities that may increase the risk of anaesthetic or surgical complications. Advanced age is not considered a contraindication for MVD.