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Original article

Profile and predictive factors in men with cervical arthrodesis after spinal cord injury[☆]

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ABSTRACT

Objective: To identify the characteristics of patients with spinal cord injury (SCI) undergoing surgery.

Methods: Previously, 321 patients with SCI were selected. Clinical and socio-demographic variables were collected.

Results: A total of 211 patients were submitted to surgery. Fall and injuries in the upper cervical and lumbosacral regions were associated with conservative treatment. Patients with lesions in the lower cervical spine, worse neurological status, and unstable injuries were associated with surgery. Individuals undergoing surgery were associated with complications after treatment. The authors assessed whether age influenced the characteristics of patients submitted to surgery. Subjects with <60 years of age were associated with motorcycle accidents and the morphologies of injury were fracture-dislocation. Elderly individuals were associated to fall, SCI in the lower cervical spine and the morphology of injury was olisthesis. Subsequently, the authors analyzed the gender characteristics in these patients. Women who suffered car accidents were associated to surgery. Women were associated with paraparesis and the morphologic diagnosis was fracture-explosion, especially in the thoracolumbar transition and lumbosacral regions. Men who presented traumatic brain injury and thoracic trauma were related to surgery. These individuals had a worse neurological status and were associated to complications. Men and the cervical region were most affected, thereby, these subjects were analyzed separately ($n = 92$). The presence of complications increased the length of hospital stay. The simultaneous presence of morphological diagnosis, worst neurological status, tetraplegia, sensory, and motor alterations were associated with complications. Pneumonia and chest trauma were associated with mortality.

Conclusion: These factors enable investments in prevention, rehabilitation, and treatment.

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Perfil e fatores preditores em homens com artrodese cervical após traumatismo raquimedular

R E S U M O

Palavras-chave:
Epidemiologia
Traumatismos da medula espinal
Fusão vertebral
Fraturas da coluna vertebral
Mortalidade
Traumatologia

Objetivo: Identificar as características de pacientes com traumatismo raquimedular (TRM) submetidos à cirurgia.

Métodos: Previamente, 321 pacientes com TRM foram selecionados. As variáveis clínicas e sócio-demográficas foram coletadas.

Resultados: Um total de 211 pacientes foram submetidos a cirurgia. A queda e lesões nas regiões cervical superior e lombosacral foram associadas com tratamento conservador. Pacientes com lesões nas regiões cervical inferior, pior status neurológico e lesões instáveis foram associados com cirurgia. Indivíduos operados foram associados com complicações após tratamento. Posteriormente, os autores avaliaram se idade influenciava as características dos pacientes submetidos à cirurgia. Sujeitos com < 60 anos foram associados com acidente motociclístico e o diagnóstico de fratura-luxação. Subsequentemente, analisaram-se as características dos sexos nestes pacientes. Mulheres que sofreram acidente automobilístico foram associadas com cirurgia. Mulheres foram associadas com paraparesia e diagnóstico morfológico de fratura explosão, principalmente nas regiões de transição tóraco-lombar e lombo-sacral. Homens que apresentaram traumatismo crânio-encefálico e torácico foram relacionados a cirurgia. Estes indivíduos tiveram um pior status neurológico e foram associados à complicação. Homens e região cervical foram mais afetadas; portanto, estes pacientes foram analisados isoladamente (n = 92). A presença de complicações aumentou a permanência hospitalar. A presença de diagnósticos morfológicos simultaneamente, pior status neurológico, tetraplegia, alteração sensório-motora foram associados com complicações. Pneumonia e traumatismo torácico foram associados com mortalidade.

Conclusão: Estes fatores possibilitam investimentos em prevenção, reabilitação e tratamento.

Introduction

The spinal cord injury (SCI) refers to vertebral column lesions that may result in transient or irreversible consequences, depending on the affected tissues during trauma.[1–3] The clinical complications after SCI are being evaluated[3–5] to improve interventions and achieve better prognosis for these patients, reducing socioeconomic costs and mortality. However, there are few studies addressing the characteristics and clinical aspects of patients undergoing surgery. Only one descriptive study[6] was found in Brazil, demonstrating the need to better understand this population and determine where investments should be made for prevention and treatment. Moreover, cultural factors and regional differences must not be neglected.[7]

There are numerous technical instrumentation and fixation methods used in patients with traumatic cord spinal injury. However, the technique used depends on the patient, characteristics of the lesion and on the surgeon's experience. In general, posterior instability should be treated by posterior fusion and anterior instability by anterior fusion. However, when there is complete discoligamentous injury, circular or combined fixation is recommended to give adequate stabilization.[8]

Surgical intervention promotes dissection and retraction of the several structures to exposure of spine to correct the injury installed,[9] possibly resulting in other tissue lesions, and, as a consequence, increasing the clinical complications and mortality.

Therefore, the objective of this study is to identify the characteristics and clinical aspects of patients with spinal cord injury submitted to surgery.

Methodology

Prospective study conducted at Hospital de Base, a tertiary referral center. Study approved by the Research Ethics Committee, protocol 806.452.

Three hundred and twenty-one patients with SCI were selected from 2008 to 2012. An initial evaluation was made to confirm the diagnosis of SCI. Patients were submitted to radiological analysis using computed tomography and/or magnetic resonance imaging.[2]

The following variables were analyzed: gender; age; etiology, morphology and topography of the SCI; neurological status; syndromic status; associated injuries; complications; length of hospitalization and deaths.