



Clinical Research

Spinal cord injuries resulting from diving accidents in the Canary Islands[☆]



Enrique Bárbara-Bataller^{a,*}, José Luis Méndez-Suárez^a, Carolina Alemán-Sánchez^a,
Jesús Sánchez-Enríquez^a, Manuel Sosa-Henríquez^b

^a Spinal Cord Injury Unit, Rehabilitation Department, Hospital Universitario Insular de Gran Canaria, Las Palmas de Gran Canaria, Spain

^b University Institute of Biomedical and Health Research, Osteoporosis and Mineral Metabolism Research Group, Universidad de Las Palmas de Gran Canaria, Las Palmas de Gran Canaria, Spain

ARTICLE INFO

Article history:

Received 27 October 2016

Accepted 20 January 2017

Available online 8 July 2017

Keywords:

Spinal cord injury

Cervical trauma

Diving accident

Spinal fracture

Prevention

ABSTRACT

Objective: Diving accidents is one of the leading causes of spinal cord injury after falls and car accidents. The objective of this study was to determine the epidemiological and clinical characteristics of these patients in our setting to better prevent these injuries.

Material and methods: We performed a retrospective, descriptive study of patients who have suffered from a traumatic spinal cord injury after a diving accident in the Canary Islands, Spain from 2000 to 2014. These patients were admitted to the Spinal Cord Unit of Hospital Universitario Insular de Gran Canaria.

Results: Of the 264 patients admitted to our unit for acute traumatic spinal cord injury, 23 (8.7%) cases were due to diving. Grouping the patients into 5 years periods, 56% of the injuries occurred in 2000–2005, 17% in 2006–2010 and 26% in 2011–2014. All patients were male, with a mean age of 29 years. Approximately 65% were under 30 years. A total of 22/23 patients had a fracture and injury most commonly occurred to the C5 vertebra. Burst fractures were the most common. A total of 86% of cases underwent surgery. All the spinal cord injuries were cervical, with C6 being the neurological level most often affected. A total of 65% of spinal cord injuries were complete injuries.

Conclusions: Spinal cord injury secondary to diving accidents is the third leading cause of traumatic spinal cord injury in our setting. It affects young males and the most common clinical presentation is a complete cervical spinal cord injury. Given the irreversible nature of the injury, prevention, aimed mainly at young people, is of great importance.

© 2017 Sociedad Española de Neurocirugía. Published by Elsevier España, S.L.U. All rights reserved.

[☆] Please cite this article as: Bárbara-Bataller E, Méndez-Suárez JL, Alemán-Sánchez C, Sánchez-Enríquez J, Sosa-Henríquez M. Lesión medular secundaria a zambullida en Canarias. Neurocirugía. 2017;28:183–189.

* Corresponding author.

E-mail address: ebb31604@hotmail.com (E. Bárbara-Bataller).

Lesión medular secundaria a zambullida en Canarias

R E S U M E N

Palabras clave:

Lesión medular
Trauma cervical
Zambullida
Fractura vertebral
Prevención

Objetivo: La zambullida es una de las principales causas de lesión medular, tras las caídas y los accidentes de tráfico. El objetivo de este estudio es conocer las características epidemiológicas y clínicas de estos pacientes en nuestro medio para realizar una mejor prevención.

Material y métodos: Se ha realizado un estudio descriptivo retrospectivo de los pacientes que han sufrido una lesión medular de origen traumático tras una zambullida en la comunidad autónoma canaria desde el 2000 hasta el 2014 y que ingresaron en la Unidad de Lesionados Medulares del Hospital Universitario Insular de Gran Canaria.

Resultados: De los 264 pacientes que ingresaron en nuestra unidad por una lesión medular traumática aguda, 23 (8,7%) fueron por una zambullida. Si se agrupan los pacientes por quinquenios, entre el 2000 y el 2005 se produjeron el 56% de las lesiones, entre el 2006 y el 2010 el 17% y entre el 2011 y el 2014 el 26%. Todos los pacientes eran varones, con una media de edad de 29 años. El 65% eran menores de 30 años. Veintidós de 23 pacientes sufrieron una fractura vertebral C5—el nivel vertebral más afectado—y la fractura aplastamiento fue la más prevalente. El 86% fueron intervenidos quirúrgicamente. Todas las lesiones medulares fueron cervicales, siendo C6 el nivel neurológico afectado con más frecuencia. El 65% presentaban una lesión medular completa.

Conclusiones: Las lesiones medulares tras una zambullida son la tercera causa de lesión medular traumática en nuestro medio. Afecta a varones jóvenes, y la presentación clínica más frecuente es una lesión medular cervical completa. Dado el carácter irreversible de la lesión, es de gran importancia la prevención, dirigida principalmente a la población juvenil.

© 2017 Sociedad Española de Neurocirugía. Publicado por Elsevier España, S.L.U. Todos los derechos reservados.

Introduction

Traumatic spinal cord injuries caused by diving usually cause severe cervical spinal cord injury in previously healthy subjects. This injury results in significant disability, with an emotional and economic cost for the patient, the family, the medical setting and society in general, making treatment of these injuries a primary objective for the healthcare systems in our field. Given the irreversible nature of this type of neurological injury, efforts must be focussed on injury prevention.¹⁻⁵

After falls and road traffic accidents, diving is one of the most common causes of traumatic spinal cord injury in our setting.^{6,7} Numerous studies have found spinal cord injury due to diving to be prevalent among young male patients, who typically suffer trauma to the cervical spine, usually leading to complete tetraplegia.^{1,2,8-11}

Thanks to its geography and mild climate all year round, the Canary Islands are a top tourist destination. A significant proportion of the recreational activities offered on the islands revolves around the sea or swimming pools, resulting in accidents of varying severity. Most accidents cause mild traumatic injury of the extremities or minor head injuries. On occasions, the impact affects the cervical spine due to compression or hyperflexion, resulting in more serious injury. These injuries are usually caused by reckless behaviour, a lack of familiarity with the environment and misjudging the depth of the water, and alcohol or drug consumption.¹²

The purpose of this study was to ascertain and analyse the risk factors associated with this type of injury and their clinical characteristics in order to design suitable prevention campaigns in our setting. In this light, a retrospective review of cases that occurred in the autonomous community of the Canary Islands was conducted.

Material and methods

Study population

A retrospective, descriptive study was conducted of all patients who had suffered a traumatic spinal cord injury due to diving in the Canary Islands and who were admitted to a specialised unit. According to the Canary Islands' Statistics Institute, the population of the Canary Islands was 1,716,276 people in 2000 (study start) and 2,100,306 people in 2014 (study end).¹³ The Spinal Cord Injury Unit at the Hospital Universitario Insular de Gran Canaria has been a regional spinal cord injury referral centre for the entire Canary Islands since November 2000. Once a patient is diagnosed with a spinal cord injury at any of the islands' hospitals, they are transferred to this specialised unit.

Standard management of cervical spinal trauma

If cervical spinal trauma is suspected, the neck is immobilised with a rigid cervical collar at the scene of the accident. Full

Download English Version:

<https://daneshyari.com/en/article/8924342>

Download Persian Version:

<https://daneshyari.com/article/8924342>

[Daneshyari.com](https://daneshyari.com)