

Intracranial hypotension in a young male patient associated with shoulder injury

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Intracranial hypotension is a rare condition with a wide range of symptoms. Typically, it is characterized by postural headaches, rarely by coma. Severe cases can be life-threatening. In most cases, intracranial hypotension is caused by repeated lumbar punctures or is spontaneous. Here, we present a case in which intracranial hypotension was associated with shoulder injury and brachial plexus injury.

Key words: brachial plexus injury, coma, cerebrospinal fluid leakage, overdrainage, intracranial hypotension.

Intrakraniální hypotenze u mladého muže v souvislosti s poraněním ramene

Intrakraniální hypotenze je relativně vzácná jednotka projevující se širokou škálou příznaků. Typicky je charakterizována posturálními bolestmi hlavy, vzácně též kómátem. Těžké případy mohou být život ohrožující. Ve většině případů je intrakraniální hypotenze způsobena opakovanými lumbálními punkcemi nebo je spontánní. V této kazuistice popisujeme případ, kdy intrakraniální hypotenze byla spojena s traumatem ramene s poraněním brachiálního plexu.

Klíčová slova: brachiální plexus, kóma, intrakraniální hypotenze, únik mozkomíšního moku.

Introduction

Intracranial hypotension (IH) is a rare condition characterized by a spectrum of neurological symptoms, including postural headaches or, in very rare cases, coma. Severe cases are potentially life-threatening. It is typically associated with the spontaneous leakage of cerebrospinal fluid (CSF) or is a sequela to repeated lumbar punctures [1–3]. Notably, over the past decade, only two documented cases have reported intracranial hypotension resulting from trauma with no connection to postoperative CSF leakage [4]. To our best knowledge, other reported cases involved head or vertebrae injury. We would like to present a unique case in which intracranial hypotension was associated with a shoulder injury and presented solely as a coma.

Case report

A 24-year-old male was admitted to a trauma centre after a motorcycle accident involving a collision with a traffic sign, resulting in a right shoulder injury.

Initial evaluation by emergency services showed a paralysis of the right arm only, and the patient was fully conscious. Upon admission, a whole-body computed tomography scan (CT) was performed, revealing a single fracture of the right collarbone, with no signs of head or spine injury.

Two hours later, the patient fell into a coma, necessitating intubation, sedation, and transfer to the intensive care unit (ICU). A subsequent brain CT scan showed diffuse brain oedema (see Fig. 1). Other conditions that can lead to a coma, such as hypoglycaemia, hyponatraemia, seizures, hypercapnia, or hypoxia, were ruled out.

An intracranial probe for multimodal monitoring was inserted and intracranial pressure (ICP) was measured at -5 mm Hg in the drainage position with the upper body elevated to 30°. Brain oximetry and pressure reactivity index were monitored. The position of the probe was checked using a CT brain scan. The patient remained sedated and ventilated for 48 hours, sustaining stable low ICP levels between -5- and -2 mm Hg. Upon cessation of sedation, the patient showed a gradual improvement

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