#### Accepted Manuscript

Title: Cataplexy causing subdural hematomas

Author: Nuria Matos, Carles Gaig, Joan Santamaria, Alex Iranzo

| PII:           | \$1389-9457(16)00064-2                             |
|----------------|--|
| DOI:           | http://dx.doi.org/doi: 10.1016/j.sleep.2016.01.018 |
| Reference:     | SLEEP 3021   |
| To appear in:  | Sleep Medicine                                     |
| Received date: | 12-11-2015   |
| Revised date:  | 17-12-2015   |
| Accepted date: | 15-1-2016  |



Please cite this article as: Nuria Matos, Carles Gaig, Joan Santamaria, Alex Iranzo, Cataplexy causing subdural hematomas, *Sleep Medicine* (2016), http://dx.doi.org/doi: 10.1016/j.sleep.2016.01.018.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

#### CCEPTED NUSCR

# Cataplexy causing subdural hematomas

Nuria Matos<sup>a</sup>, Carles Gaig<sup>a,\*</sup>, Joan Santamaria<sup>a</sup>, Alex Iranzo<sup>a</sup>

<sup>a</sup> Neurology Service and Multidisciplinary Sleep Unit, Hospital Clinic de Barcelona, IDIBAPS, CIBERNED, Barcelona, Spain

\* Corresponding author: Neurology Service and Multidisciplinary Sleep Unit, Hospital Clinic de Barcelona, C/Villarroel 170, Barcelona, 08036 Spain. Tel.: +34932275413; fax: + 34932275783. *E-mail address*: cgaig@clinic.ub.es (C. Gaig)

Comment [JM1]: Authors: is this part of the affiliation? This journal requires department, institution, city and country for affiliations (which i added for you)

**Keywords:** 

Narcolepsy type 1

Cataplexy

Injury

Subdural hematoma

#### ACCEPTED MANUSCRIPT

## Introduction

A 76-year-old man with narcolepsy type 1, with a 50-year history of excessive daytime sleepiness and cataplexy, HLA DQB1\*0602 positive, and undetectable CSF hypocretin-1 levels, complained of progressive clumsiness of the left limbs, which was associated with a dull headache of 1-week duration. The patient was treated with modafinil (100 mg per day) and clomipramine (25 mg per day) for 5 years. His hypersomnia improved and the cataplectic attacks decreased with this medication, but they still persisted with a frequency of one episode per week. He took neither anticoagulants nor antiaggregants.

An examination demonstrated hemiparesis with Babinski sign and hypoesthesia in his left limbs. A brain MRI was performed, which showed bilateral subdural hematomas (Figure) – one recent and another more chronic. The hemogram and coagulation tests were normal. The patient explained that 4 weeks earlier, he had hit his head against a tree during a cataplectic attack while laughing, which left him with a moderate headache and no other symptoms. Two weeks later, he had another attack, during which, after the excitement of discovering and killing a spider that he had found in his living room, he suddenly fell down and hit his head against the floor without losing consciousness. After surgical removal of both subdural hematomas, the patient fully recovered.

## **Image analysis**

A coronal T2-weighted MRI image showed two subdural hematomas, one in each cerebral convexity. These subdural hematomas had a significant mass effect. They had different MRI intensities: the right hematoma was hypointense on T2 (asterisk) and isointense on T1, suggesting a subacute evolution, and was probably related to the first cataplectic attack in which the patient hit his head against a tree. The left hematoma was hyperintense on T2 (arrow) and hypointense on T1, indicating a more recent onset, and was likely caused by the latter episode of cataplexy triggered by the spider.

**Comment [JM2]:** Editor: no figure provided to check the number and legend

#### ACCEPTED MANUSCRIPT

# Discussion

Loss of muscle tone in cataplexy can be abrupt and maximal from the beginning, leading to extremely sudden and violent falls that can cause traumatic lesions. In one study, up to 14% of patients with narcolepsy reported repeated injuries secondary to cataplexy [1]. Most of these injuries were mild, like bruises and excoriations of the limbs. Twenty percent of the patients, however, experienced at least once in a lifetime a more severe injury due to cataplexy, such as superficial wounds or head concussion [1]. The present case underscores the need to effectively treat cataplexy in order to prevent injuries.

Conflict of interest: None.

#### References

 Overeem S, van Nues SJ, van der Zande WL, et al. The clinical features of cataplexy: a questionnaire study in narcolepsy patients with and without hypocretin-1 deficiency. Sleep Med 2011;12:12-8.

~ Certed `

Figure 1

**Comment [JM3]**: Authors: please list the first six authors before using et al. Please amend this.