IS THERE A LINK BETWEEN PAIN CHRONIFICATION, AND ALLODYNIA AND VITAMIN D DEFICIENCY IN HEADACHE?

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Introduction

- Migraine is generally episodic (EM) but it may become chronic (CM).
- Allodynia is a clinical feature of migraine that has been associated with headache chronification.
- The mechanisms leading from EM to CM are not yet fully understood.
- The role and the contribution of inflammation and central sensitization have been considered in the headache chronification.
- Recently, several studies focused on the possible role of vitamin D (vitD) in chronic pain development

Objectives

The aim of this study was to assess the potential role of VitD in pain chronification and its relation to the occurrence of allodynia.

Methods

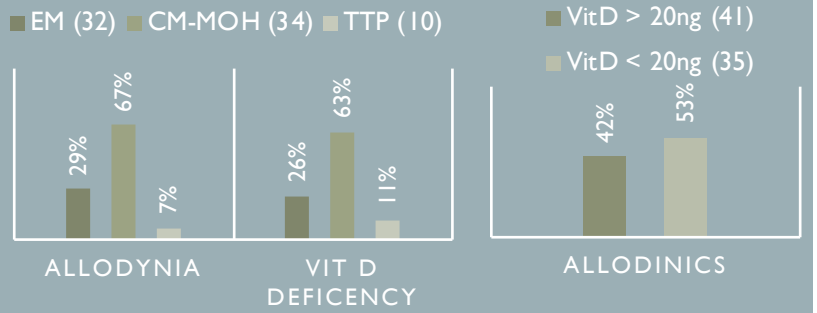
- We recruited retrospectively 76 consecutive patients divided in 3 groups according ICD-III criteria: 32 EM, 34 CM-MOH, 10 TTH (see table below).
- Data collection included: age, sex, height, BMI, job, physical activity, dairy intolerance, comorbidities, and family history of headache. episodes frequency, symptomatic drugs, occurrence of chronic extracranial pain and allodynia, defined as an Allodynia Symptoms Check (ASC-12) score > 2
- We dosed serum calcifediol (Vit D), parathyroid hormone, calcium folates, vitamin B12, homocysteine, iron and phosphorus
- Analyses were based on either parametric (ANOVA) or non-parametric (chi-square test) methods. The significance value was set at $p = 0.05$.

Data	EM (n = 32) 42.1%	CM-MOH (n = 34) 44.7%	TTH (n = 10) 13.2%
Age (years)	43.1	51.8	40.1
Gender	F 93.8% M 6.2%	F 91,2% M 8,8%	F 90% M 10%
BMI (kg/m2)			
<18	0%	6.5%	25%
18–24.99	75%	63.5%	50%
>25	25%	25%	25%
MMD	6.1	18.9	3.7
MSI	5.6	20.4	3.6

EM: episodic migraine; CM-MOH: chronic migraine and medication overuse headache; TTH: tension-type headache; BMI: body mass index; MMD: monthly migraine days; MSI: monthly symptomatic intake;

Results

- The vitD deficiency was not significantly associated with the season of enrolment or with any of the other variables considered.
- Both VitD deficit and allodynia occurred more frequently (p= 0.011; p= 0.006 respectively) in patients suffering from chronic migraine and medication overuse (CM-MOH) than episodic migraine (EM) or tension-type headache (TTH)
- The occurrence of allodynia was not related to the co-occurrence of vitD deficiency (Fisher's exact test p = 0.11 and p = 0.32, respectively)



Conclusion

Our results show an association between CM-MOH and vitD deficit, probably reflecting the vitD anti- inflammatory and tolerogenic properties. The absence of relationship between vitD deficit and allodynia suggest that their pathophysiological mechanism is not exactly the same in the pain chronification in CM-MOH.

References

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