

MEETING ABSTRACTS

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AL01

Estimating the Probability of Reported Versus Theoretical Drug-Drug Interactions in Headaches Medicine

V. Kaytser, I. Hakkinen, P. Zhang

Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ, United States

Correspondence: V. Kaytser; I. Hakkinen; P. Zhang

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Background: This project aims to compare the likelihood of a theoretical drug-drug interaction between a number of abortives and preventives using DrugBank's application programming interface (API) versus the empirically reported interactions using the FDA's Adverse Event Reporting System (FAERS) API.

Methods: We included, as input, abortive and preventive drugs from the *AHS Position Statement on Integrating New Migraine Treatments into Clinical Practice*, as well as Szperka's, *Migraine Care in the Era of COVID-19*. All combinations of up to 3 abortives and/or preventives are screened for interactions through DrugBank and FAERS. If at least one interaction, of any type, is listed, then it is included here and compared across the two databases.

Results: We included 38 abortives and 23 preventives. We downloaded DrugBank data on August 26, 2020 and included FAERS data from October 2012 to March 2020. Table 1 contains the number of interactions for a given number of medications. Due to hardware limitations, 3 abortives vs. 3 preventives was not analyzed.

Conclusion: The likelihood of an interaction increases as the number of combinations of abortives and preventives increases. Per DrugBank, the chance of an interaction is >99% once more than 3 drugs are used in combination. Whereas, the reported interaction is actually less, 60%, per FAERS. This data may help providers to use more rational polypharmacy.

DrugBank: # of Interactions				FAERS: # of Interactions			
Abortives	Preventives			Abortives	Preventives		
	1	2	3		1	2	3
1	628	9146	66994	1	151	3725	39584
2	15350	177289	1244819	2	6392	103891	915594
3	193185	2134216	*	3	115799	1574622	*
# of Possible Combinations				# of Possible Combinations			
Abortives	Preventives			Abortives	Preventives		
	1	2	3		1	2	3
1	874	9614	67298	1	874	9614	67298
2	16169	177859	1245013	2	16169	177859	1245013
3	194028	2134308	*	3	194028	2134308	*
Probability of interaction				Probability of interaction			
Abortives	Preventives			Abortives	Preventives		
	1	2	3		1	2	3
1	0.7185354	0.9513209	0.9954827	1	0.1777688	0.3874517	0.5881898
2	0.9493475	0.9967952	0.9998522	2	0.3953243	0.5841200	0.7354091
3	0.9956552	0.9999568	*	3	0.5968159	0.7377669	*

Table 1 (abstract AL01). See text for description

AL02

An AI-enabled ECG Algorithm Predicts Higher Subclinical Atrial Fibrillation Risk in Patients with Migraine with Aura Compared to Migraine without Aura

N. Chhabra¹, C. J. Chao², N. Zhang³, E. Lim³, H. Wang⁴, Z. Attia⁵, P.

Friedman⁵, P. Noseworthy², C. C. Chiang⁶

¹Mayo Clinic, Neurology, Scottsdale, AZ, United States; ²Mayo Clinic, Cardiology, Scottsdale, AZ, United States; ³Mayo Clinic, Quantitative Health Research, Scottsdale, AZ, United States; ⁴Mayo Clinic, Neurology, Mankato, MN, United States; ⁵Mayo Clinic, Cardiology, Rochester, MN, United States; ⁶Mayo Clinic, Neurology, Rochester, MN, United States

Correspondence: N. Chhabra

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Objective: Migraine with aura (MwA) is associated with a 2-fold risk of ischemic stroke. Higher incidence of atrial fibrillation (AF) has been



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attack). Both patients with hemicrania continua have only 2-3 headache days per month (comparing to 30 days before the injections). Conclusions: The use of CGRP monoclonal antibodies may be effective in patients with hemicrania continua and chronic cluster headache. More clinical trials are needed to prove efficacy on a large group of patients.

P0151

Erenumab for chronic refractory cluster headache – case report

A. R. Gonçalo Pinheiro, Â. Abreu, E. Parreira
Hospital Professor Doutor Fernando Fonseca, Neurology, Lisbon, Portugal

Correspondence: A. R. Gonçalo Pinheiro
The Journal of Headache and Pain 2021, 22(Suppl 1):P0151

Introduction: CGRP is released after trigeminal-autonomic reflex activation during a cluster headache attack. Galcanezumab has shown positive results in episodic cluster headache. Erenumab has also been described as effective in cluster headache and comorbid migraine. We present a case of off-label use of Erenumab for chronic cluster headache treatment, refractory to all treatments, except corticosteroids.

Case: A 63-year-old male developed in 2015 a chronic cluster headache: he presented daily headache, ranging from one attack per night in the first year, to several nocturnal and diurnal attacks in the following two years. He was medicated with verapamil, melatonin, lithium, topiramate and occipital nerve block, without success. He then started oral corticosteroids with efficacy but become dependent of this medication. Valproate and botulinum toxin were also tried. In 2020 he started Erenumab 140mg, after informed consent. After one-week, complete resolution of the attacks occurred, and it lasted 10 weeks, when he was able to stop corticosteroids. After 9 months of treatment, he shows a significant reduction in frequency and intensity of the attacks.

Conclusion: In this case, Erenumab allowed control of refractory cluster headache and suspension of corticosteroids. We emphasize that, because CGRP is involved in the pathophysiology of the disease, anti-CGRP therapies may improve its treatment.

P0152

Absence of structural correlatable findings in Cluster Headache patients fulfilling IHS Criteria: Experience in three different Hospitals in Spain

S. Pérez-Pereda¹, V. González-Quintanilla², M. Drake³, C. Serrano⁴, C. N. Marzal⁵, S. Cusó⁴, C. Aguilera⁴, M. Fernández Recio⁵, G. Velamazán⁵, J. Pascual¹

¹University Hospital Marqués de Valdecilla and University of Cantabria, Neurology, Santander, Spain; ²University Hospital Marqués de Valdecilla and IDIVAL, Neurology, Santander, Spain; ³University Hospital Marqués de Valdecilla and IDIVAL, Radiology, Santander, Spain; ⁴Fundació Hospital Sant Joan de Déu de Martorell, Neurology, Martorell, Spain; ⁵University Hospital Virgen de Valme, Neurology, Sevilla, Spain

Correspondence: S. Pérez-Pereda
The Journal of Headache and Pain 2021, 22(Suppl 1):P0152

Background and objective: In contrast to migraine, brain MRI is recommended for the initial diagnosis of Cluster Headache (CH) to exclude other conditions that could mimic its symptoms. Our aim was to analyze the true value of MRI in CH.

Methods: We analysed the brain MRIs of consecutive patients diagnosed with CH according to current IHS criteria in 3 Headache Units in Spain and exhaustively reviewed their clinical history.

Results: 134 patients were included. 49 (37%) showed some abnormal finding. 43 were male; mean age at diagnosis 42+/-14y. 6 were chronic and 43 episodic CH. MRI findings were: 18 white matter lesions, 12 sinus inflammatory changes, 5 small arachnoid cysts, 5 chronic ischemic lesions, 3 empty sella turca, 2 tumors (trigeminal schwannoma and craneopharyngioma), 2 diffuse cortico-subcortical atrophy and 5 other unspecific findings. All of them were considered non symptomatic based on the neuroimaging characteristics, the clinical course and/or the response to conventional treatment.

Patients who showed tumors presented atypical features (facial hypoesthesia on examination and episodes of prolonged duration that progressed to continuous refractory pain without specific pattern, respectively) and they did not fulfill, retrospectively, IHS CH criteria.

Conclusions: Brain MRI in patients who meet the IHS CH criteria, with no atypical features, does not show any correlatable findings, suggesting that these criteria are highly predictive of its primary origin.

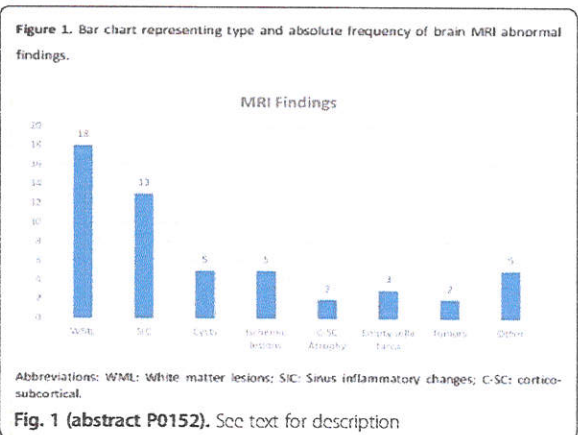


Fig. 1 (abstract P0152). See text for description

Table 1. Demographic characteristics and comorbidities of CH patients showing any abnormal brain MRI finding.

Variable	N (%)
Episodic CH	43/49 (88%)
Chronic CH	6/49 (12%)
Age at diagnosis (mean ± SD)	42 ± 14y
Sex	
Male	43/49 (88%)
Female	6/49 (12%)
HTA	8/49 (16%)
Hyperlipidemia	9/49 (18%)
Diabetes	2/49 (4%)
Obesity	1/49 (2%)
Smoking habit	32/49 (65%)
At least 1 vascular risk factor	34/49 (69%)

Table 2 (abstract P0152). See text for description

P0153

Chronic Cluster Headache in Woman: A Case Report

D. A. Sudibyo, H. B. Hidayati
Medical Faculty Airlangga University/ Dr. Soetomo General Hospital Surabaya, Indonesia, Neurology, Surabaya, Indonesia

Correspondence: D. A. Sudibyo
The Journal of Headache and Pain 2021, 22(Suppl 1):P0153

Background and objective: Cluster headache is the most frequent trigeminal autonomic headache syndromes, with high morbidity due to its pain severity. Chronic cluster headache, comprised of 10-20% patients, can be more difficult to control, mandates for efficient prophylactic therapy for the patient. We present a woman with chronic cluster headache with successful verapamil prophylactic treatment.

Case report: A 53 years old woman, admitted in neurology outpatient clinic, complained of 2 years severe left periorbital pain in temporal region with Numeric Pain Rating Scale (NPRS) 10, accompanied by

autonomic symptoms (conjunctival injection, tearing, nausea, hyperhidrosis), lasting 45 minutes – 2 hours (if untreated), twice a day especially at night, improved with oxygen therapy during acute attack. Neurological examination and head computed tomography (CT) scan with contrast were normal. Due to her worsening periodicity for the past 2 weeks, prophylactic treatment with verapamil 80 mg twice daily was commenced which give an excellent remission of symptoms and reduced pain intensity within 14 days (NPRS was reduced to 0 with no cluster attack for one month follow up).
Conclusions: Verapamil 80 mg twice daily can be used as prophylactic treatment for chronic cluster headache with good result and less side effect. It gives significant reduction on pain intensity followed by no cluster attack.

Keywords: Cluster headache, Verapamil, Prophylactic treatment

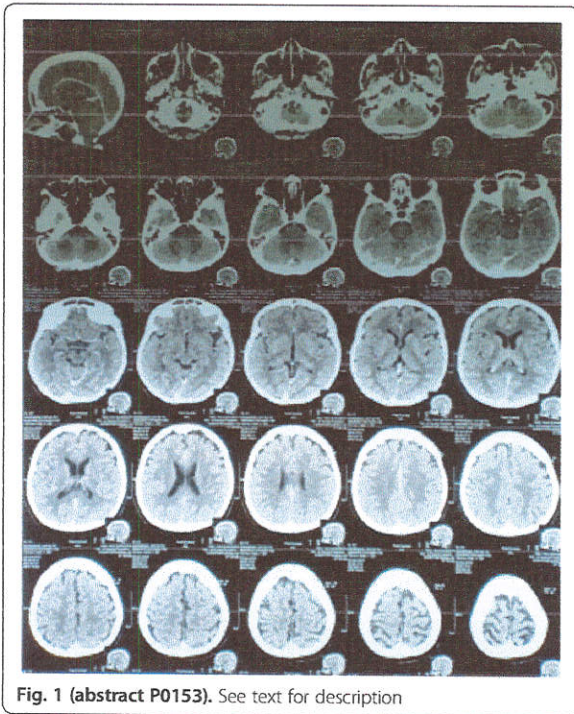


Fig. 1 (abstract P0153). See text for description

P0154
Intranasal ketamine for acute Cluster headache attacks - Results from a proof-of-concept open label trial

A. S. Petersen¹, A. Snoer¹, A. S. Pedersen¹, M. Barloese^{1,2}, P. Holm³, O. Pedersen³, R. H. Jensen¹

¹Danish Headache Center, Department of Neurology, Glostrup, Denmark; ²Hvidovre Hospital, Department of Functional and Diagnostic Imaging, Section for Clinical Physiology and Nuclear Medicine, Hvidovre, Denmark; ³Lionheart Pharmaceuticals ApS, Vanløse, Denmark

Correspondence: A. S. Petersen

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Background and objective: Acute treatment options for Cluster headache patients who have an insufficient response to oxygen and triptans are limited. Intranasal ketamine has anecdotally been successful in treating a Cluster headache attack but never systematically tested.
Methods: We conducted an open-label pilot study in which 20 chronic Cluster headache patients according to International Classification of Headache Disorders 3rd were treated during one cluster headache attack with intranasal ketamine. Under in-hospital observation patients

received 15 mg ketamine by intranasal spray every six minutes a maximum of five times. The primary endpoint was a 50% reduction of pain intensity within 15 minutes after initiating treatment.

Results: The primary endpoint was not met. However, 30 minutes after first application the pain intensity was reduced by 59% from 7.25±1.24 to 2.94±3.40 on a 11 points numeric rating scale (mean, SD, p=0.0002) and 11 out of 16 (69%) scored four or below on the numeric rating scale. Exactly, half the patients preferred ketamine to oxygen and/or sumatriptan injection and complete relief was self-reported by 8 out of 20 patients (40%). No serious adverse events were identified during the trial.

Conclusion: Intranasal ketamine may be an effective acute treatment of cluster headache within 30 minutes but should be tested in a larger controlled design. Patients and physicians should be conscious of the abuse potential of ketamine.

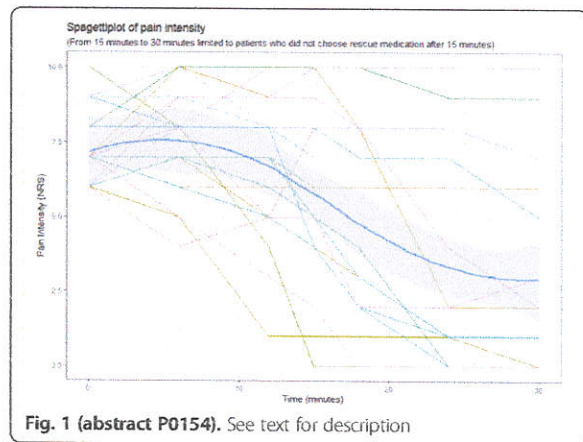


Fig. 1 (abstract P0154). See text for description

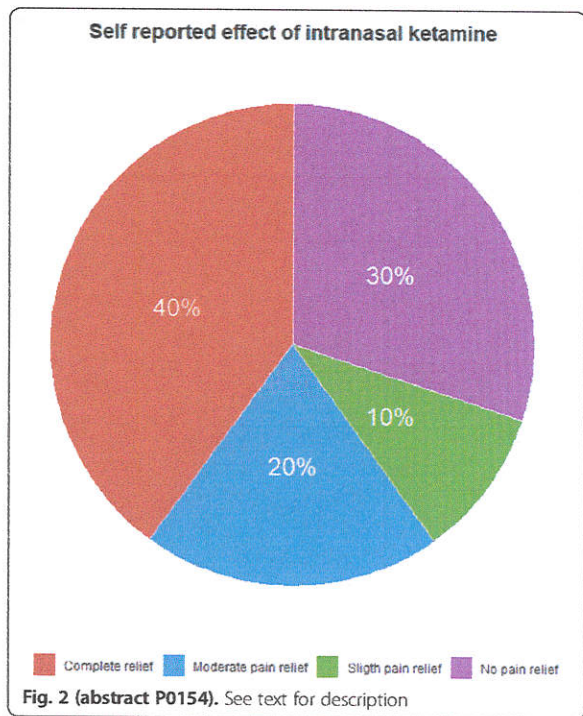


Fig. 2 (abstract P0154). See text for description

The International Headache Congress
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Certificate of attendance



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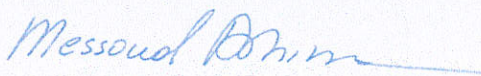
has presented the ePoster P0153 with the title:

Chronic Cluster Headache in Woman : A Case Report

at the virtual International Headache Congress.

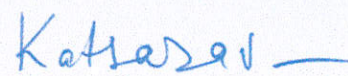
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CHRONIC CLUSTER HEADACHE IN WOMAN: A CASE REPORT

Devi Arianti Sudibyo¹, Hanik Bodriyah Hidayati¹

¹Medical Faculty Airlangga University / Neurology Department, Dr. Soetomo General Hospital Surabaya, Indonesia

BACKGROUND AND OBJECTIVE

Cluster headache is the most frequent trigeminal autonomic headache syndromes, with high morbidity due to its pain severity. Chronic cluster headache, comprised of 10-20% patients, can be more difficult to control, mandates for efficient prophylactic therapy for the patient. We present a woman with chronic cluster headache with successful verapamil prophylactic treatment.

CASE REPORT

A 53-year-old woman, admitted in neurology outpatient clinic, complained of 2 years severe left periorbital pain in temporal region with Numeric Pain Rating Scale (NPRS) 10, accompanied by autonomic symptoms (conjunctival injection, tearing, nausea, hyperhidrosis), lasting 45 minutes ~ 2 hours (if untreated), twice a day especially at night. Improved with oxygen therapy during acute attack. Neurological examination and head computed tomography (CT) scan with contrast were normal. Due to her worsening periodicity for the past 2 weeks, prophylactic treatment with verapamil 80 mg twice daily was commenced which give an excellent remission of symptoms and reduced pain intensity within 14 days (NPRS was reduced to 0 with no cluster attack for one month follow up).

CONCLUSIONS

Verapamil 80 mg twice daily can be used as prophylactic treatment for chronic cluster headache with good result and less side effect. It gives significant reduction on pain intensity followed by no cluster attack.

Keywords: Cluster headache, Verapamil, Prophylactic treatment

Disclosure of Interests: None

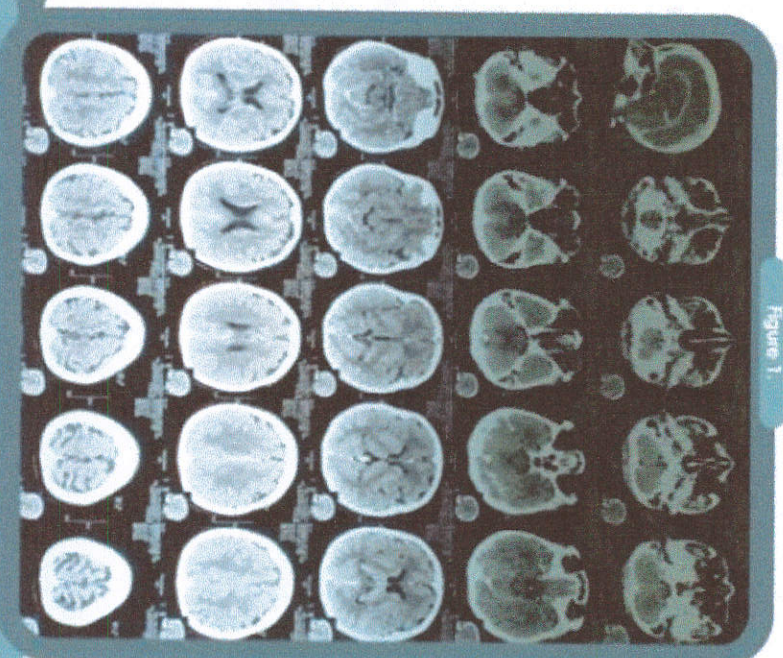


Figure 1