tions that cause vasospasm. Our MRI findings are consistent with ischemia that could be caused by spasm of thoracic spinal arteries.

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Chronic paroxysmal hemicrania–tic syndrome

Article abstract—The association of chronic paroxysmal hemicrania and ticlike pain—chronic paroxysmal hemicrania–tic (CPH-tic)—is a recently described syndrome. The authors found only two previously reported cases. They report three new cases of this rare syndrome with both chronic paroxysmal hemicrania and ticlike pain concurrently and ipsilaterally. The trigeminal–autonomic cephalalgias (TAC) are considered as differential diagnoses. CPH-tic syndrome could be a different clinical entity. **Key words:** Chronic paroxysmal hemicrania—Trigeminal neuralgia—SUNCT syndrome—Chronic paroxysmal hemicrania–tic syndrome.

NEUROLOGY 2000;54:1524–1526

E. Zukerman, MD; M.F.P. Peres, MD; A.O. Kaup, MD; P.H. Monzillo, MD; and A.R. Costa, MD

The short-lasting primary headaches with prominent autonomic features were recently considered trigeminal–autonomic cephalalgias (TAC).[1] The TACs are cluster headaches, episodic and chronic paroxysmal hemicrania, short-lasting unilateral neuralgiform headache with conjunctival injection and tearing (SUNCT) syndrome, and cluster–tic syndrome.

The association of chronic paroxysmal hemicrania and trigeminal neuralgia—chronic paroxysmal hemicrania–tic (CPH-tic)—is a recently described syndrome and possibly a new TAC. The first case was reported by Hannerz,[2] in 1993, and the second case by Caminero et al.,[3] in 1998. We report three new cases of this rare syndrome with both chronic paroxysmal hemicrania and ticlike pain concurrently and ipsilaterally.

Case reports. *Patient 1.* A 58-year-old woman presented with a 2-year history of severe pain in the right orbital region lasting 10 to 15 minutes, occurring about 15 times a day without nocturnal predominance. All attacks were associated with lacrimation, ocular injection, eyelid edema, and rhinorrhea.

Other pain coexisted with the former, namely a shocklike pain lasting 5 seconds. It occurred 10 times during each attack and was located in the first division of the right trigeminal nerve. It was triggered by eating, washing the face, and speaking. There was no refractory period after that. These two pains were present at the same time, but one did not occur in the absence of the other.

Clinical and neurologic examinations were normal. CT, MRI, and CSF examinations were normal. Indomethacin was prescribed initially at 75 mg a day and was increased to 150 mg with partial relief. Carbamazepine 600 mg a day was also administered and produced complete pain relief. Any attempt to reduce the dose resulted in pain recurrence.

Patient 2. A 54-year-old woman presented with a 2-year history of a shocklike pain located in the left supraorbital region spreading to the paranasal region lasting 5 seconds and followed immediately by a rather severe periocular ipsilateral headache lasting 5 to 10 minutes. This was accompanied by ocular injection, lacrimation, and eyelid edema, which occurred approximately four times a day. It was triggered by washing the face, eating, brushing the teeth, and sometimes when turning the head laterally. These triggers did not work consistently.

Neurologic examination and neuroimaging (CT and MRI) studies were normal. Carbamazepine, baclofen, and phenytoin were ineffective, but indomethacin at 150 mg a day produced complete relief of both pains. The patient is now asymptomatic and has gone 4 months without medication.

From the Department of Neurology (Drs. Zukerman, Peres, and Kaup), Universidade Federal de São Paulo, Escola Paulista de Medicina, Brazil; and the Department of Neurology (Drs. Monzillo and Costa), Faculdade de Ciências Médicas da Santa Casa de São Paulo, Brazil.

Received May 28, 1999. Accepted in final form December 16, 1999.

Address correspondence and reprint requests to Dr. Eliova Zukerman, R. Itacolomy, 601, cj 62 CEP 01239-020, São Paulo, Brazil; e-mail: eliovazukerman@hotmail.com

Patient 3. A 67-year-old woman presented with a 20-year history of a shocklike pain in the right side of the face, localized in the second division of the trigeminal nerve. Episodes lasted a few seconds and were triggered by eating and washing the face. Another pain superimposed itself on the original pain and appeared sporadically at first, but developed into a daily occurrence. The pain was a throbbing type, ipsilateral, hemicranial, and lasting 10 minutes. It occurred approximately 30 times a day and was associated with nasal congestion, ocular injection, and lacrimation.

The patient had hypertension and a multinodular atoxic goiter. Neurologic examination revealed trigger points in the second division of the trigeminal nerve. CT was normal. Indomethacin 200 mg a day gave partial pain relief. Baclofen 30 mg a day and phenytoin 300 mg a day were administered and produced complete pain relief.

Discussion. CPH is considered to be a cluster headache variant. The association of trigeminal neuralgia and cluster headache (cluster–tic syndrome) can occur in the same patient either concurrently or at different times. Approximately 20 cases of this syndrome have been reported,[4] either primarily or secondarily. It would be reasonable to expect that CPH could coexist with trigeminal neuralgia.

The first case described by Hannerz[2] was secondary to a periorbital venous vasculitis, and CPH attacks occurred independently 12 years before the trigeminal neuralgia attacks.

Caminero et al.[3] reported the second case, which remains the first CPH-tic case occurring concurrently. It was also the first to be primary. In fact, this case could be considered an episodic paroxysmal hemicrania–tic syndrome, as Hannerz[5] proposed.

The patients we present have both concurrent manifestation of CPH and ticlike pain as a chronic pattern. These patients are the first described in a chronic and concurrent basis. We could not find any secondary cause for these headaches. CPH-tic syndrome is probably a primary headache and could be classified as a short-lasting, unilateral headache with prominent autonomic features, or alternatively, as a trigeminal–autonomic headache.[1]

The patients of Hannerz[2] and Caminero et al.,[3] as well as our three patients, were women. This is consistent with the observation that CPH is a predominantly female syndrome. Other clinical features of our patients are similar to those seen in CPH, such as localization, duration, frequency, autonomic features, and being responsive to indomethacin.

The age range of our patients was 54 to 74 years, which is closer to trigeminal neuralgia than CPH. The CPH-tic syndrome is possibly an elderly age headache. Complete pain relief with indomethacin was seen only in one of our patients (Patient 2). The other patients required the administration of drugs effective in trigeminal neuralgia. Other features such as shocklike pain, trigger factors, and localization are also related to trigeminal neuralgia. In the report by Hannerz,[2] the tic was located in the second and third division of the trigeminal nerve. The report by Caminero et al.[3] had a second-division tic evolving to a first-division pain.

Our Patients 1 and 2 both had first-division tics, and Patient 3 presented a second-division trigeminal neuralgia. Our Patient 3, similar to the patient reported by Caminero et al.,[3] presented a previous history of trigeminal neuralgia evolving into a CPH-tic syndrome.

SUNCT syndrome[6] resembles trigeminal neuralgia in several ways, such as the unilaterality of pain, triggering mechanisms, and duration and frequency of attacks. This syndrome is an important alternative diagnosis for CPH-tic syndrome. Duration is usually longer in CPH, lasting from 2 to 45 minutes according to the IHS classification. SUNCT syndrome may last 15 to 120 seconds according to the criteria proposed by Goadsby and Lipton.[1] A SUNCT syndrome statuslike pattern was reported by Pareja et al.[7] in four patients, and relatively long-lasting attacks have also been observed both in symptomatic and idiopathic[8] SUNCT cases. However, they have only been observed exceptionally and are isolated atypical episodes. Nevertheless, the responsiveness to indomethacin and other drugs is not consistent with the diagnosis of SUNCT.

Sjaastad et al.[9] reported 19 patients diagnosed as having first-division trigeminal neuralgia. Autonomic phenomena were seen in some patients. Lacrimation was present most frequently (in eight patients), and the combination of lacrimation, conjunctival injection, and rhinorrhea was present in only two patients. Although autonomic phenomena are possible in first-division trigeminal neuralgia, their duration is usually no longer than a few seconds, and long-lasting attacks in these patients are defined as 1-minute-long attacks. In our patients, ticlike pain lasted a few seconds, similar to what Sjaastad et al.[9] in 8 patients.

Our Patients 1 and 2 had triggers from one division with manifestation in another division of the trigeminal nerve. This is atypical for trigeminal neuralgia, but Sjaastad et al.[9] reported more than half of the patients with first-division trigeminal neuralgia with trigger mechanisms other than the V1 area (shaving, brushing teeth, swallowing, and chewing), although the pain remained exclusively in the orbital region. Other extratrigeminal triggers (sudden head movements, manner during walking) were also reported.

In our patients both pains were ipsilateral. This suggests the disorders are not associated coincidentally, otherwise we would expect contralateral localization of both CPH and ticlike pain.

Goadsby and Lipton[1] proposed that the trigeminal–autonomic reflex (a brainstem connection between the trigeminal nerve and facial parasympathetic outflow) could account for the pathophysiology of the TACs. Calcitonin gene-related peptide, substance P (trigeminal marker peptides), vasoactive intestinal peptide (parasympathetic marker peptide), and ni-

tric oxide are also possibly involved in these pain mechanisms.[10]

Perhaps this syndrome should be considered an atypical form of CPH with a late onset, a somewhat atypical response to indomethacin at times, and with intermittent periorbital pain that can be triggered. In our opinion, these patients could share an underlying common pathophysiology, and the association of CPH and ticlike pain could suggest that the CPH-tic syndrome is a different clinical entity. Additional studies are necessary to clarify this issue.

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APOE-ϵ4 predicts incident AD in Japanese-American men: The Honolulu–Asia Aging Study

Article abstract—The authors assessed the 3-year incidence of dementia, including subtypes, in 2,603 Japanese-American men 71 to 93 years of age who were dementia free at baseline. There were 137 new cases of dementia according to the Diagnostic and Statistical Manual of Mental Disorders, 3rd edition, revised, including 51 with a primary diagnosis of AD. The rates for all subtypes increased with age. Men with an *APOE4* allele had a significantly increased risk of AD of 2.39 (95% CI, 1.07, 5.31), after adjusting for age and education. There was no significant relationship of APOE4 with other subtypes of dementia. **Key words:** Dementia—Risk factors—Epidemiology.

NEUROLOGY 2000;54:1526–1529

R.J. Havlik, MD; G. Izmirlian, PhD; H. Petrovitch, MD; G.W. Ross, MD; K. Masaki, MD; J.D. Curb, MD; A.M. Saunders, PhD; D.J. Foley, MS; D. Brock, PhD; L.J. Launer, PhD; and L. White, MD

There has been interest in ethnic and racial differences in the contribution of APOE4 to AD risk.[1,2] Studies of APOE and dementia incidence in Japanese samples are relevant because Japanese men may have more vascular dementia (VaD) than AD,[3] and this may influence relationships in a population with a lower frequency of APOE4.[1] APOE4 has been shown to be associated with an increased risk of AD and VaD in a cross-sectional study of a Japanese population.[4] We report the incidence of dementia and its major subtypes, and the risk associated with APOE4 for a cohort of Japanese-American men. These men have been followed up since 1965 as part of the Honolulu Heart Program and, subsequently, as the Honolulu–Asia Aging Study (HAAS).

Methods. A detailed description of the HAAS has been published.[5] The HAAS was implemented in 1991 to 1993 to characterize cognitive function and to identify cases of dementia. It was completed on 3,734 Japanese-American men (80% participation rate), 71 to 93 years of age at the time of examination, who had been members of a population-based study of cardiovascular disease initiated in 1965 to 1968. Characteristics of the examined and unexamined groups were similar.[5] The cohort was reexamined during 1994 to 1996, with an 84% participation rate among those with a previous cognitive screen. However, 521 deaths and 487 refusals resulted in a subgroup with a slightly younger age (average age, 77 years) and a higher educational level (average educational level, 10.8 years) than the baseline group (average age, 78 years; average

From the Epidemiology, Demography and Biometry Program (Drs. Havlik, Izmirlian, Brock, and Launer, and D. Foley) National Institute on Aging, National Institutes of Health, Bethesda, MD; the Honolulu-Asia Aging Study (Drs. Petrovitch, Masaki, Curb, and White), Kuakini Medical Center, Honolulu, HI; the Department of Veterans' Affairs (Dr. Ross), Honolulu, HI; the Department of Medicine (Drs. Petrovitch, Ross, Masaki, Curb, and White) University of Hawaii, John A. Burns School of Medicine, Honolulu, HI; and the Joseph and Kathleen Bryan Alzheimer's Disease Research Center, Department of Medicine (Neurology) (Dr. Saunders), Duke University Medical Center, Durham, NC.

Supported by the National Institute on Aging, NIH contract N01-AG-4-2149.

Received July 12, 1999. Accepted in final form December 12, 1999.

Address correspondence and reprint requests to Dr. Richard Havlik, Epidemiology, Demography and Biometry Program, National Institute on Aging, Gateway Building Suite 3C-309, Bethesda, MD 20892; e-mail: havlikr@gw.nia.nih.gov

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E. Zukerman, M.F. P. Peres, A.O. Kaup, et al.

Neurology 2000;54;1524-1526
DOI 10.1212/WNL.54.7.1524