UNUSUAL PRIMARY HEADACHE DISORDERS. DIFFERENTIAL DIAGNOSIS

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[Cefalee primitive non comuni. Diagnosi differenziale]

ABSTRACT

Headaches are important and frequent neurological diseases with a multiple and complex etiopathogenesis. While the common clinical varieties are well known, some of them are not well known for their rarity: a better knowledge is certainly useful to recognize them, in the absence of valid diagnostic tools. Therefore, this brief review is dedicated to them.

Key words: Headache, cluster headache, paroxysmal hemicrania, SUNCT, stabbing headache, pain.

Received *August 29, 2012;* ***Accepted*** *Septemper 12, 2012*

Introduction

Headaches are certainly among the most frequent occurrences in neurology and account for a high percentage of clinical cases in any neurology clinic or unit.

A headache is any type of pain localized in the head or any part thereof.

Classically headaches are divided into primary forms and secondary varieties: the former differ from the latter for the impossibility of documenting any eliciting causal factor, as is the case with many forms resulting from the multiple pathological conditions that may affect the tissues of the head, such as cerebrovascular diseases, brain neoplasms, nasal and paranasal inflammations, meningitis, encephalitis, sinusitis, pharyngotonsillitis, thoracic and abdominal pain[1], post-traumatic headaches, neck diseases, a large part of the pathologies of the mouth or eyes.

Primary headaches, in turn, are divided into different clinical varieties thoroughly defined in the latest international classification of headache disorders[2].

Among primary headaches the frequency of occurrence of the different types varies greatly, with a high frequency of stress headaches and a substantial relevance in percent of migraines (with or without aura), with the relevant therapeutic issues they pose[3].

Primary headaches include though varieties, which, because of their minor frequency, are less familiar. Therefore, it seems appropriate to describe these to increase knowledge and facilitate their recognition, in the absence of specific diagnostic imaging tests.

Clinical types

Cluster headaches

Among these, a privileged role is definitely assigned to cluster headache[4] both for the severity of the symptoms and the unmistakably typical clinical manifestation.

Of all headaches, it is the only one to present typical pathognomonic signs during the acute phase of the episode.

Its etiology has not yet been clearly defined, but there is widespread consensus that the pathogenesis is most likely attributable to the following hypotheses:

1. "Peripheral" or "low" hypothesis:

• Parasympathetic hyperactivity, mediated the III and VII cranial nerve

• Sympathetic hypofunction

2. "Central" or "high" hypothesis

Primary alteration of integrative mechanisms at a limbic-hypothalamic and brainstem level

3. Chronobiological hypothesis: limbic-hypothalamic damage resulting in impaired temporal secretion of neurotransmitters, neuropeptides or neurohormones and hence periodic alteration of neurovegetative and nociceptive autonomic functions.

The current name replaces the many previous ones: Horton's histamine cephalalgia (1936), sphenopalatine, facial, ciliary vidian, and petrosal neuralgia, erythro-prosopalgia of Bing, and erythromelalgia of the head.

As regards its epidemiology, it is the rarest form of primary headache, with a prevalence of 1 out of 1000 cases (general population), clear prevalence in males with a male to female ratio of = 9:1, rare familiarity (7-20%), autosomal dominant, with onset around 30 to 60 years of age.

As for the symptoms, it has a circannual course, because it has the typical "clusters" of symptoms concentrated in certain periods of the year (spring/autumn), which vary from one individual to another; crises occur suddenly, without warning signs in the course of a few minutes, with a prevailingly unilateral location of pain (rare side variability, in 15% of cases); the seat of the pain is the ocular and periocular area, and the quality of the pain is typically stabbing/throbbing of great intensity (when asked to quantify pain from 1 to 10, patients respond: 12), hence the definition of headache of suicide due to the not uncommon suicidal reaction of some patients during the attack.

What makes the pain attack so unique is: its maximum duration varying 2 to 3 hours, the behavior of the patient in the acute phase due to an uncontrollable restlessness (the migraine patient lies down in bed in the dark and in silence) in search of relief that cannot to be found, with a typical presence of neurovegetative signs ipsilateral to the pain attack which are variously associated with: lacrimation, conjunctival redness, hyperhidrosis around the eyes, runny nose, eyelid ptosis and miosis.

The circadian distribution of attacks during the clusters, up to a daily maximum of 3, is another feature, and tends to recur during the day and during the night at the same time (patients say that they wake up suddenly with pain and know the time without looking at the clock), with a preference for the REM stage of sleep both at night and during the day, thus corroborating the chronobiological hypothesis: circannual clusters and circadian attacks.

Paroxysmal hemicrania

The so-called female variant of cluster headache is called paroxysmal hemicrania[5], which differs though from cluster headache for certain characteristics: besides the prevalence among women (6:1) and its rarity, the age of onset is earlier (20 to 40 years of age), with a shorter duration of attacks (less than 30 min.) but more often daily (up to 15 a day), with the absence of the typical restlessness/agitation of the male form, with marked sensitivity to indometacin, which by definition should stop the pain crises (daily dose of 150 mg po or rectally, or parenteral 100 mg).

Sunct

Another variant of rare primary headache is what is known as SUNCT from the acronym of "Short-lasting Unilateral Neuralgiform headache attacks with Conjunctival injection and Tearing[6]. It is an even rarer headache compared to the former, with significant prevalence among males[3-5:1], with onset around 50-70 years of age, and characterized by very short neuralgiform painful attacks (from 5 sec. to 5 min.) in the area of the first ophthalmic branch of the trigeminal nerve, consistently ipsilateral, without patient agitation, of moderate/strong intensity, but sometimes with a much higher frequency (up to 200 a day). Unlike cluster headaches, the attacks occur only during the day, but like the former, they are concentrated in circannual clusters; the attacks can be triggered by neck movements or mechanical stimuli in the first trigeminal branch. Here, too, the neurovegetative signs typical of cluster headache are observed.

Stabbing headache

The last headache worth mentioning is the primary stabbing headache[7-9], once known as ophthalmodynia periodica consisting of typical, very short pain attacks (1-5 sec.) localized in the head, reported by patients as stabs, pickaxe blows, stings,

Distinctive features of stabbing headache from other types of paroxysmal headache								
Type of headache	***Frequency***	***Duration***	***Intensity***	***Chronobiology***	***Location***	***Trigge***	***Pain***	***Dysautonomi***
Migraine	variable	h/d	high	possible	unilateral	none	pulsating	none
Cluster headache	1-8/d	20-180 m	max.	frequent	periorbital	none	stabbing	yes
paroxysmal hemicrania	multiple/d	2-30/m	high	possible	unilateral	none	stabbing	none
Trigeminal neuralgia	multiple/d	few s.	max.	none	trigeminal	yes	shock-like	none
SUNCT	multiple/d	5-240 s	high	none	periorbital	none	stabb./pulsat	yes
Stabbing headache	multiple/d	1-3/s.	max.	none	trigem./occ	none	stabbing	none

s = seconds; m = minutes; h = hours, d = day; max. = maximum; dysautonomia = cranial autonomic symptoms (lacrimation and/or conjunctival injection and/or nasal congestion and/or rhinorrhoea); SUNCT = Short-Lasting Unilateral Neuralgiform headache attacks with Conjunctival injection and Tearing; stabb./pulsat. = stabbing/pulsating, trigem./occ. = trigeminal/occipital territory.

Table 1

usually without evidence in hematological, neuroradiological or neurophysiological instrumental tests.

The stabs occur from a few to many times a day and are located either in the occipital or in the parieto-temporal area, at times without being able to document a causal factor. It too is considered a primary headache, with onset at a young age, with a clear prevalence among women and possible association with other forms of headache.

Despite the current inclusion of stabbing headache in the International Classification of Headache Disorders[9], our experience has led us to assume, in some clinical varieties, a possible demyelinating lesion in the context of monofocal clinically isolated syndrome (CIS)[10] systemic lupus erythematosus, Behcet's disease, Sjogren's syndrome, vasculitis, Lyme disease, antiphospholipid antibody syndrome.

A table shows a summary of the distinguishing characteristics of the headaches described above (see Table 1)[9].

To conclude this brief review, it seems appropriate to remind that headaches include extremely complex and heterogeneous medical conditions that, despite the massive amount of clinical and experimental research all over the world, comprise large dark areas in etiopathogenic, diagnostic and therapeutic terms, so that they legitimately continue to be a scientific challenge for all communities and research centers.

The lack of knowledge is not only a gap in science or knowledge, but unfortunately it also leads to a painful therapeutic limitation that we all suffer in times of personal direct or indirect involvement, as doctors or patients, because at times the headaches are symptoms of other diseases and not diseases themselves, as in all forms only seemingly primitive, but in fact associated, sometimes, with changes in mood and multiple neurotransmitters, in which more treatment options could be achieved with alternative or diverse approaches[11-16].

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