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NEW DAILY PERSISTANT HEADACHE –LARGEST CASE SERIES REFINING THE ETIOLOGY AND CHARECTERISTICS IN TERTIARY CENTRE

Neurology

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ABSTRACT

BACKGROUND –The aim of this retrospective study was to provide data on the etiology and clinical features of patients with new daily persistant headache in tertiary centre. New daily persistent headache (NDPH) is a chronic headache developing in a person who does not have a past history of headaches. The headache begins acutely and reaches its peak within 3 days. It is important to exclude secondary causes, particularly headaches due to hypothyroidism , trauma , vasculitis,CVT,stress,chronic subdural hematoma.. A significant proportion of NDPH sufferers may have intractable headaches that are refractory to treatment.

Total 316 patients were observed during a period (2016-2018).. Total 196 patients were diagnosed as primary NDPH and 120 patients as secondary NDPH.NDPH was more frequent in females irrespective of type of NDPH.significant number of patients have moderate in intensity (needs analgesics to get relief)and tightening character in both groups. .

KEYWORDS

INTRODUCTION -

According to the International Classification of Headache Disorders (ICHD)–2, primarydaily headaches unremitting from onset are classified as new daily-persistent headache(NDPH) only if migraine features are absent. When migraine features are present, classification isproblematic.(5) One of the most common and often difficult to treat headache disorders seen by headache specialists is chronic daily headache of long duration which occurs on at least 15 days per month with untreatedheadache lasting longer than 4 hours for more than 3months with primary types (not related to structural dysfunction or other illness) diagnosed after theexclusion of the many possible causes of secondary headaches by history, examination, and testing, as indicated.(2).

The International HeadacheSociety (IHS) proposed a diagnostic criterion in the second edition of the International Classification of Headache Disorders (ICHD-II) [9]. However, a few authors suggest that current ICHD-II criteria for NDPH are too restrictive, and a few new criteria have been suggested in the recent past in the literature [4]. The main characteristic featureof NDPH is daily and unremitting headache from the onsetor from less than 3 days from the onset [9]. The ICHD-IIcriterion for NDPH resembles daily form of chronic tension-type headache (CTTH) that begins abruptly [9].The main controversy in the diagnostic criteria is regarding the presence of migrainous features [10]. ICHD-II acknowledges only one of photophobia, phonophobia, or mild nausea in primary NDPH. However, most other migrainous features are against the diagnosis of NDPH.

Unilateral head pain, throbbing headache, severe intensity, exacerbations by physical activities, moderate to severe nausea, and vomiting are not the features of NDPH. However, most studies suggest that migrainous features may be the part of the clinical spectrum of NDPH or a clinical sub form of NDPH exists [11-14]. Initially, NDPH was considered as a "benign or self-limiting" form of headache. But, recent observations suggest that it may be the most treatment refractory of all primary headache disorders. disorders.

In this retrospective study, we studied a group of consecutive patients who fulfilled the Kung et al.'s revised criteria for NDPH.

MATERIALAND METHODS-

This study was conducted as a retrospective chart review of total 316 patients seen in Neurology Department in our institute (a tertiary centre) from january 2016 to january 2018. The study constitutes a consecutive series of patients who were diagnosed as having NDPH. NDPH was diagnosed according to the revised ICHD-II criteria (Kung et al.'s criteria). Most recent studies on NDPH have used this criterion. Kung et al.'s criteria include only criteria A and B of ICHD-II. It reads as(A) headache more than 3 months, and (B) headache is daily and unremitting from onset or less than 3 days from onset.Patients with a history of episodic migraine or episodic tension typeheadache (1 attack/month) were included in the study. The majority of patients were seen and examined by a neurologist who has a special interest in headache disorders. A neurological examination including fundoscopy was performed on all patientsIn this study we also reviewed the secondary causes of NDPH and their characteristic features,. the patients were interviewed by phone to retrieve the missing information.

Age and duration of illness were determined as of the date of first visit. The patients who did not have headache duration of [3 months at the time of first visit were excluded from the study.

Data are presented as percentage or as arithmetic mean. .chi square test was used to compare the continous data and p- value 0.05 was defined as statistically significant..

RESULTS

Age –total 196 patients were enrolled under the category of primary NDPH out of which 71 patients (36%) were between the age of 30-39 yrs and 48 patients (24%) were between the age of 20-29 yrs.Primary NDPH was uncommon among older age group. Total 120 patients were enrolled under the category of secondary NDPH and maximum number of patients 51(42.5%) were between the age of 30-39 yrs.

Sex – F:M ratio in primary NDPH is 1.7:1 and in secondary NDPH it is 2.4:1.

Onset of headache – abrupt onset of headache was observed in 94% and 95%patients in primary and secondary NDPH respectively.

Duration – duration between the onset of symptoms and first visit to physician was maximum between 3-6 months in both groups.

Type of headache-headache was daily in nature in 148 patients (75%) and 91 patients(76%) in primary and secondary NDPH respectively..remitting type pattern observed in 21% and 17% in primary and secondary NDPH.

Character of headache –tightening character is seen in 155 patients (79%) followed throbbing character in 23 patients(11%) in primary NDPH.

Location - headache was bilateral in location in166(84%) and 113(94%) patients in primary and secondary NDPH respectively.

Severity of headache –headache was moderate in nature (require infrequent intake of analgesics to get relief)in 69% and 62%patients in primary and secondary NDPH.

TYPE OF HEADACHE –tension type headache was observed in 60.9%and migraine type in 29.95%% and relapsing –remitting type in 8.83% of patients in primary NDPH.

Etiology of secondary NDPH -
20 patients (16.67%) had history of trauma. Idiopathic intracranial hypertension in 14(11.67%),hypothyroidism in 12(10%), chronic venus sinus thrombosis in 7 (type 5.83%), CNS granuloma in 6(5%),intracranial neoplasm in 6(5%),chronic subdural hematoma in 5(4.17%),post lumber puncure headache in 7(5.83%),vasculitis in 7(5.83%),INTRACRANIAL AV MALFORMATION 4 (3.33%),chronic meningitis 6(5%),partially treated meningitis 3(2.5%),subarachnoid hemorrhage in 2(1.67%)patients were identified as etiology of secondary NDPH.

DISCUSSION –
Operational diagnostic criteria for NDPH were proposed in 19948 but the condition was not included in the International Classification of Headache Disorders until 2004 (ICHD-2). TheICHD-2 criteria, unlike the predecessor criteria, exclude patients who have prominent migraine features (table 1)(5)

TABLE1 – INTERNATIONAL CLASSIFICATION OF HEADACHE DISORDER ,2ND EDITION CRITERIA FOR NEW DAILY- PERSISTANT HEADACHE ,

A. Headache for more than 3 months fulfilling criteria B–D (a)
B. Headache is daily and unremitting from onset or less than 3 days from onset.
C. At least 2 of the following pain characteristics:
   1. Bilateral location
   2. Pressing/tightening (nonpulsating) quality
   3. Mild or moderate intensity
   4. Not aggravated by routine physical activity such as walking or climbing stairs.
D. Both of the following:
   1. No more than one of photophobia, phonophobia, or mild nausea
   2. Neither moderate or severe nausea or vomiting
E. Not attributed to another disorder.

(a)The revised criteria for new daily-persistent headache do not require C or D.

In this retrospective study, we examined the patients fulfilling the Kung et al.'s criteria for NDPH, which allows to include migrainous features.in our case series migranous features observed in 29.95% patients out of which 30.5% patients have nausea. Rozen et al reviewed the literature for the presence of migrainous features in patients with NDPH. The prevalence for nausea in patients with NDPH was 33–68 %(4).Vanast reported on 45 patients, 19 men (80% of the ages were 26 to 45 years) and 26 women (ages 16 to 35 years), who were seen in the course of 24 months in Edmonton, Alberta, Canada. The headache pain was described as steady in 72% of the patients, pounding in 28% and unilateral in 38%. Associated symptoms included nausea (57% of the men and 53% of the women), vomiting (5% of the men, 19% of the women), light sensitivity (26% of the men and 42% of the women), and noise sensitivity (21% of the men, 53% of the women)(1).In our study we have observed maximum prevalence of primary NDPH among middle age group (30-39 yr) with female predominance(63.27%).Robbins et al (5)observed The median onset age was slightly older in NDPH-ICHD (overall: 34years, women: 34 years, men: 33 years) onset was abrupt in nature in most (94.39%).

Duration of illness in most primary NDPH patients was 3-6 months in which they frequently visited to physician. In our case series headache was daily in nature in 75.51% ,remitting type in 21.43%,relapsing –remitting in 3.06%.. most patients have tightening character of headache (79.08%) followed by throbbing type (11.73%) and less commonly pressing(5.61%) and pulsatile type (3.57%). Our 166 patients (84.69%) in primary NDPH group have headache bilaterally and 30 patients (15.31%)have unilaterally.

Robbins et al (2010)(5) observed bilateral headache in 88.7% patients .in this case series 69.39% have moderate headache (require in frequent analgesics to get relief),22.45% have mild headache (not require analgesics),8.16% have severe headache (need frequent analgesics every time to get relief).In our series significant stress was observed in 4.08%.while Robbins et al observed self reported anxiety or depression in 35.5%.
The etiology of NDPH is poorly understood because of the report that many patients experience an antecedent flu-like illness, a postinfectious phenomenon has been postulated, often attributed toEpstein-Barr virus17 or other infections(5).

NDPH patients can have their headache onset in a biphasic pattern during the beginning of spring and autumn could also impart a seasonal trigger, such as an infection, as a common inciting factor.However, though NDPH patients may have elevated CSF levels of a proinflammatory cytokine,tumor necrosis factor-_, this does not seem related to having a history of an antecedent infection(5).

Secondary NDPH were observed in 120 patients out of which 20 patients (16.67%) had history of trauma. Idiopathic intracranial hypertension in 14(11.67%),hypothyroidism in 12(10%), chronic venus sinus thrombosis in 7 (type 5.83%), CNS granuloma in 6(5%),intracranial neoplasm in 6(5%),chronic subdural hematoma in 5(4.17%),post lumber puncure headache in 7(5.83%),vasculitis in 7(5.83%),INTRACRANIAL AV MALFORMATION 4 (3.33%),chronic meningitis 6(5%),partially treated meningitis 3(2.5%),subarachnoid hemorrhage in 2(1.67%)patients were identified as etiology of secondary NDPH.

Limitations –
Our study has many limitations. Our findings may not be applicable to the general population, as this case series only included patients seen at a single tertiary headache center, and did not include young children. Patients having a form of NDPH that either remits shortly after 3 months or causes little disability may not seek medical attention at all, or at least be less likely to be referred to a neurologist or headache center. Self-reported family histories and psychiatric comorbidities may not be accurate.

CONCLUSION-
New daily persistent headache is an interesting entity of uncertain etiology. NDPH may be a presentation of another primary type such as migraine, tension, or benign thunderclap headache. The criteria used for diagnosing NDPH need to be re-evaluated so as to begin to understand this important and often intractable primary headache syndrome. Including the group of patients with migrainous symptoms may allow clinicians and researches to understand why the headaches have an abrupt onset and unremitting nature, which is the hallmark of the condition. An infectious trigger may bepresent in some of the cases. There is little information available on the epidemiology and clinical features. Better treatments are needed. It can be a challenge to identify secondary causes of headache, which mimic NDPH.

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