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Chronic daily headache: a Rorschach study

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Abstract The aim of this study was to describe the distinctive personality traits and their interest to the development of a chronic form of headache, by means of the Rorschach test, a projective approach, in an automated version compiled by a trained system (PRALP3). This study did not show the existence of a pathological structure in the chronic headache sufferer personality (in the psychiatric sense of the word). The most important finding is the admission that both neurosis associated with anxious-depressive elements and inhibited emotional overflowing are important

factors in the genesis of chronic daily headache. This study does not exclude that other factors different from personality traits may also play a pathogenetic role in headache worsening. In other words, the development of chronic daily headache may be a patterned or learned response generated by the brain in relation to multiple inciting causes (stress, drug abuse) or individual predisposition (personality traits).

Key words Rorschach • Chronic daily headache • Abuse • Personality traits

Introduction

Although the prevalence of chronic daily headache (CDH) in the general population is almost 2%, it is the most frequent headache disorder observed in headache centers [1]. The association of chronic daily headache with depression, anxiety, and other psychological symptoms has been reported frequently [2]. Previous studies showed, indeed, that psychological factors play a role in worsening and transformation of headache. Furthermore, many patients with chronic daily headache overuse symptomatic multiple medication. An escalating use of analgesic drugs, especially analgesic mixtures, is the most important factor for the transformation of episodic headache to CDH and for maintenance of the syndrome [3]. Finally, it is widely acknowledged that chronicization of headaches is influenced by factors such as an excessive use of symptomatic medica-

tions, an abnormal character trait, stress, and traumatic life events [4].

In order to evaluate the personality profiles of patients suffering from CDH with and without drug abuse, we used the Rorschach test, a projective approach, in an automated version filled out by a trained system (PRALP3). This test yields an automatic and objective report [5–7].

The Rorschach test consists, briefly, in presenting inkblots to subjects, and asking them what the blot resembles. These ambiguous stimuli generate verbal responses which are the expression of personality organisation. The responses are scored by means of symbolic codes for locations, determinants, contents, frequency and particular phenomena. Never without its critics, the Rorschach test has long been used in studies of headache patients.

Our aim was to describe the distinctive personality traits and their interest to the development of chronic form of headache with and without drug abuse.

Subjects and methods

A total of 139 adult outpatients, including 30 men (21.58%) and 109 women (78.42%), mean age 41.75 ± 13.15 years were enrolled at seven Italian headache centres (Bari, Florence, Milan, Pavia, Padua, Perugia, and Rome). Inclusion criteria were chronic headache (pain present for at least 15 days/month for at least six months) in absence of other neurological or psychiatric disease. Exclusion criteria were: diagnosis of chronic cluster headache, chronic paroxysmal hemicrania, hemicrania continua, and chronic post-traumatic headache. A possible organic cause of headache, in dubious cases, was excluded by means of neuroimaging or other appropriate examination.

The diagnosis of onset headache was made according to the criteria of the International Headache Society (IHS) [8]: 101 (72.66%) patients suffered from migraine without aura (MwoA), 16 (11.5%) suffered from episodic tension-type headache (ETTH), 12 (8.6%) patients were affected by chronic daily headache ab initio, and finally, 10 (7.19%) suffered from headache that was not classified.

To classify CDH patients at the observation time, three types of daily headache were provided: chronic tension-type headache (CTTH), chronic coexisting migraine with tension-type headache (CCMTTH) and chronic migraine (CM).

In the whole sample headache fulfilled the diagnostic criteria for migraine in 35 (25.17%) patients, for chronic tension-type headache in 26 (18.70%) patients and for combination of the two previous types in 78 (56.11%) patients. The demographic characteristics of the sample are summarised in Table 1. Student's *t* test for independent data was used for comparisons of means from two samples (men vs. women, abusers vs. nonabusers), and the one-way ANOVA was performed for the comparison of means from more than two samples (chronic headache subtypes).

To collect the data concerning analgesic use, we used a specific form proposed by the Modena Headache Center. Analgesic abuse was observed in 92 (66.18%) of the 139 patients.

The Rorschach test was scored blindly and the assessment was carried out automatically with PRALP3 methods. The following items were recorded:

- Total number of responses (R)
- Number of popular responses (P)
- Contents of responses (H, human figures; Hd, parts of human figures, Obj, all kinds of man-made objects; Anat, human anatomy; Rx, radiography; Nat, nature; Bot, botanic)
- A, Animal figures and Ad, parts of animal figures
- Erlebnistypus: ratio between the number of responses given to the three chromatic figures (VIII, IX, X) and the total number of responses.

- Affective ratio: the ratio between the number of responses given to the three chromatic figures (VIII, IX, X) and total number of responses. The normal range is 0.55–0.75.
- Lambda index: an indicator of the tendency to simplify and economize the cognitive effort, with the production of responses which require the lowest elaborative activity. It is an indicator of reliability of the test and is calculated as the ratio between the responses determined by the “pure” (F) form and all other types of responses of the protocol (normal range, 0–1.2). In the case of a low number of responses, a high value of lambda is indicative of a scarce reliability of the test (saving performance).
- “Particular phenomena”: during the test's administration the subjects may show verbal and non-verbal behavioural reactions that are called “particular phenomena”. We considered these phenomena such as good indicators of specific psychopathological problems, i.e. anxious (symmetry response, comment to card) or depressive (death animal, statues) traits.
- Card rejection

Results

The mean responses rate (R) in the whole sample was 16.5 ± 6.76 without any differences either among the three types of daily chronic headache or between abusers and nonabusers. Popular responses (P) represented 22.87% of the total responses in the sample without any differences when comparing either the three types of daily chronic headache or the abuser and nonabusers groups. There was no difference between the three groups of headache patients for examined contents (human, caricatures and mythological human figures, nature, objects). Of all responses, 47.11% had animal content or details. When comparing abusers and nonabusers, the mean number of responses with animal content or with details was significantly higher in the former group (Table 2).

The whole sample of chronic daily headache patients showed a significant increase in “anatomic” and “radiography” contents. Furthermore, by means of the Erlebnistypus analysis, a high percentage of affectivity coarctation was found in the total sample (71.2%).

The whole sample showed a low affective ratio (< 0.55), while 56% of protocols had a lambda index higher than 1.2.

There were no significant differences among the three types of chronic headache concerning particular phenome-

Table 1 Demographic characteristic of the patient sample. Values in parenthesis are standard deviations

	Men (n = 30)	Women (n = 109)	Total (n = 139)
Mean age, years	38.1 (12.7)	42.7 (12.9)	41.7 (13.0)
Education, years	12.1 (3.8)	10.4 (3.7)	10.9 (3.9)
Mean age at headache onset, years	19.6 (8.5)	21.7 (10.4)	20.1 (8.9)
Mean age at chronic headache onset, years	35.2 (12.6)	32.8 (13.3)	35.3 (12.6)
Drug abusers	15 (50.0)	77	92

Table 2 Most frequent contents and particular phenomena: comparison between drug abusers and nonabusers. Values are mean (standard deviation)

	Abusers (n = 92)	Nonabusers (n = 47)
A+Ad	8.27 (3.50)	6.93 (3.30)*
Obj	1.10 (1.10)	0.80 (1.10)
Anat	1.46 (1.90)	1.42 (2.70)
Bot	0.60 (0.90)	0.60 (1.10)
Nat	0.40 (0.80)	0.50 (1.00)
Anx traits	3.96 (2.81)	2.85 (2.92)
Dep traits	1.70 (1.72)	1.63 (1.52)

* $p < 0.05$, abusers vs. nonabusers
Anx, anxiety; Dep, depression

na. Abusers showed a significantly higher occurrence of anxious traits among particular phenomena than nonabusers. Finally, the most rejected cards in the total sample examined were those numbered 2, 4, 6 and 9.

Discussion

A low response rate may be a sign of marked intellectual inhibition and compromised ability to adhere to the real world or more probably a sign of the difficulty to move one's attention to something other than one's own disease. In other words, in these subjects there is a peculiar contact with reality obtained through rationalized modalities without an emotional involvement. The high percentage of popular responses and the high values of the lambda index observed in the total sample also confirmed these data. The drug abusers showed a significantly higher number of responses with animal content or with animal details than nonabusers. By supplying answers with this content, the abusers have been limited to pick in the cards how much was more immediately obvious, probably because of their inhibited and depressed mood.

Although no substantial differences were found among the three groups of patients according to the headache type, the high response frequency of "anatomy" and "radiography" contents indicates that, in chronic daily headache patients, these defensive modalities may be a failure to confront anxiety. Anatomy and radiography contents, indeed, are a product of their neurosis and their preoccupations which these can breed. This is confirmed by certain characteristics which emerge from the interviews and observations, and also by peculiar elements perceived by the Rorschach protocol. The examination of particular phenomena indicated that drug abusers show a significantly higher occurrence of anxious traits than nonabusers.

A high percentage of M/sum C ratio tending toward a coarctative sense was also found. This result confirms that CDH patients are inhibited in their aggressive impulses' exces-

sive control and in their capacity to resolve their conflicts.

A generalisation of phobic aspects and the massive utilisation of repression are indicated by the high number of rejections. Indeed an analysis of the rejected cards showed a conflict pattern, a defence mechanism against anxiety which seems to predominate (card 2). A certain concern with the paternal figure was suggested by the frequent rejection of cards 4 and 6. Moreover, a concern with the maternal figure is indicated by the rejection of card 9.

Multiple psychophysiological measures and personality assessment techniques were previously utilised, to facilitate the diagnosis of headache and to confirm that a different personality type, as well as a biological predisposed individual, may lead to a worsening of chronic headaches. This study does not show the existence of a pathological structure in the chronic headache sufferer personality (in the psychiatric sense of the word) and this result is in agreement with the work of another author [10]. The most important finding of this study is the admission that both neurosis associated with anxious-depressive elements and inhibited emotional overflowing may be important factors in the genesis of chronic daily headache. This study does not exclude that other factors different from personality traits may also play a pathogenetic role in headache worsening. In other words, the development of CDH may be a patterned or learned response generated by the brain in relation to multiple inciting causes (stress, drug abuse) or individual predisposition (personality traits).

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