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New strategies for the treatment of migraine attacks

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Abstract There is no consensus on which treatment strategy should be used in the acute therapy of migraine. A stratified care approach based on patient's disabilty assessed by a valid instrument (the MIDAS questionnaire) has been proposed. An international controlled study, the DISC trial, showed that stratified care provided better clinical outcomes than step care across attacks or within attacks. An Italian study invited migraine patients with moderate-severe disability to treat 9 attacks according to one of two strategies: stratified care (i.e. triptans from the outset) or step care across attacks (i.e. with drug escalation from non-specific drugs to triptans, if the response was not satisfactory). This study should provide data useful for assessing the optimal treatment strategy in migraine.

Key words Migraine • Acute treatment • Step care • Stratified care • Triptans

Introduction

Migraine is a heterogeneous disorder whose severity varies markedly [1]. However, a high proportion of migraineurs have severe pain and reduced ability to function during attacks, and this has adverse affects on work and leisure [2–4]. There is a need for individually tailored migraine management.

Step care and stratified care strategies

Several types of drugs are now available for the acute treatment of migraine (e.g. non-steroidal anti-inflammatory drugs (NSAIDS), combination analgesics, analgesics plus anti-emetics, and triptans) [5, 6]. However, there is no consensus as to the best way to use these drugs in clinical practice. Two main strategies have been proposed: step care and stratified care.

In step care (across attacks), patients begin with a non-specific therapy such as a simple or combination analgesic. A patient may subsequently re-contact the physician if the initial therapy is ineffective, in which case a more powerful drug is given (drug escalation). This process is repeated until a satisfactory result is achieved. Drugs can also be escalated in a single attack (step care across attacks): patients treat the headache initially with non-specific therapy but take another medication, after a given period, if the first proves ineffective.

In the alternative strategy of stratified care, treatment is prescribed from the outset according the severity of the headache condition which must be evaluated. Lipton pro-

posed stratifying patients according to extent of disability, implying the ability to assess illness severity and impact on daily living in each patient [7]. A disability instrument must be reliable, have good internal consistency and be simple to use. The migraine disability assessment score (MIDAS) meets all these criteria [8].

The DISC Study

The stratified and step care approaches to migraine were tested in the recent international trial called Disability in Strategies of Care (DISC) [9]. DISC was a randomised, controlled, parallel group trial conducted in 13 countries. The Headache Centres of Milan and Merate, Italy, participated.

The results of the trial indicated that stratified care based on disability assessment provided better clinical outcomes than step care strategies. This was evident when results on pain relief and functional disability were analysed. Headache response (reduction of pain from severe or moderate at baseline to mild or none within 2 hours after medication) was significantly greater across six attacks in patients allotted to stratified care, compared to patients treated with step care either across or within attacks ($p<0.001$ in both cases). The time during which patients experienced disability as a result of an attack was also significantly lower in the stratified care group ($p<0.001$).

Stratified care vs. step care: an Italian study

In collaboration with the Mario Negri Institute of Milan and the Headache Centre of Bari, we recently performed a study on Italian migraine patients to compare different acute treatment approaches assessing disability. The study was sponsored by the Italian Ministry of Health with an Applied Research Grant to the C. Besta National Neurological Institute.

The first part of the programme was to produce an Italian version of the MIDAS questionnaire. The Italian MIDAS was found to be equivalent to the original English version, and proved to have satisfactory test-retest reliability and internal consistency; it was therefore suitable for assessing disability in Italian speaking migraine patients [10].

The second part of the programme was an open, randomised, multicentre trial. Patients diagnosed with migraine without aura according to criteria of the International Headache Society (IHS) [11] and attending the Headache Centres of Milan and Bari were invited to enter the study. All patients completed the MIDAS questionnaire before entering the study. Only patients with moderate-severe disability (MIDAS grades III and IV) were included, as in this subgroup it is important to choose the optimal treatment from the outset. Step care involved a 3-step escalation (NSAIDS, a combination of an analgesic and an anti-emetic, and a triptan). The stratified care arm received a triptan from the start. Patients randomised to the step care arm received a NSAID as first-line treatment. They came back for the first follow-up visit after they had treated three attacks. If outcome was satisfactory (defined as pain reduction, from moderate to severe before therapy to mild or none at two hours after therapy, in two or all three attacks), the patient continued to use that NSAID. Patients who did not respond satisfactorily were escalated to acetylsalicylic acid plus metoclopramide. After three attacks, a triptan was prescribed to treat the next three attacks in patients who did not respond satisfactorily to the analgesic and anti-emetic combination. Patients in the stratified care arm were given a triptan to treat nine consecutive headache attacks. The only change in therapy allowed for these patients during the study was to change from one triptan to another if an unsatisfactory result was obtained for three headaches.

The results are now being analysed. The main outcome measure is the time to reach a satisfactory result (headache response at two hours at least in two of three consecutive attacks). The percentage of attacks with headache response at two hours, and the percentage in which escape drug was used, will be evaluated and compared for each treatment approach. Patients were also asked to complete the MIDAS questionnaire at the end of the study period. Disability at baseline vs. that after nine treated attacks (evaluated as MIDAS disability score and MIDAS grade) will be evaluated to determine whether step care and stratified care are associated with different functional disability outcomes.

Discussion

There is no consensus on which strategy should be used in the treatment of migraine. In clinical practice, sequential strategies (step care) or strategies based on patient's selection (stratified care) are currently used [7].

The step care approach may provide favourable outcomes in patients with less severe illness, who are likely to respond to non-specific drugs. However, many migraine patients have severe pain and high disability, and several visits to the doctor are required before effective treatment is established. These patients may become discouraged during this process and may lapse from care before they receive effective treatment.

Stratification of patients into different disability grades can be achieved using specific instruments. The MIDAS

questionnaire provides a scientifically sound way of assessing headache-related disability in all activity domains, and is simple to use and to score. It is therefore ideal for clinical practice [8, 10]. Stratified care increases the likelihood that initial treatment will be effective in patients with more severe headache, as the treatment prescribed depends on the global impact of the condition in each patient. This strategy can improve patient satisfaction and reduce the rate of lapsed patients among those with severe symptoms.

Stratified care was in fact the most effective strategy in the international DISC trial, which was the first study to compare the effect of different treatment strategies on pain and functional disability [9]. In an ongoing Italian study, conducted by the Headache Centres of Milan and Bari in collaboration with the Mario Negri Institute, a sample of highly disabled migraine patients were treated with step care across attacks or with disability-guided care. The results will provide useful data for assessing the optimal treatment strategy in migraine, especially for severe pain and marked disability.

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