

A CASE OF EPISODIC CLUSTER HEADACHE RESPONDING DRAMATICALLY TO LITHIUM CARBONATE

M.B Abdel-Maksoud, A. Nasr

ABSTRACT

We are reporting a case of episodic cluster headache in a 33 years old male which responded dramatically to a 6 weeks course of lithium carbonate at a dose of 600mg daily. The lithium blood level was maintained at 0.4 mmol/l and the attacks were completely aborted with 3 years remission afterwards. In the discussion we included a summary of the previous trials which proved the effectiveness of lithium carbonate in treating the 2 types of cluster headache (the episodic and the chronic types). We concluded that low serum level of lithium is effective in the prophylaxis of episodic cluster headache and that the duration of treatment can be guided by the duration of the previous cluster episodes.

Key words: Cluster Headache, Lithium Carbonate.

INTRODUCTION

Lithium carbonate is a mood stabilizer which can be used in various psychiatric conditions. Lithium is effective in the treatment and prevention of acute mania¹ and it is also valuable in the prophylaxis of recurrent depression and bipolar illness. It has also been of value in personality disorders associated with aggression or alcoholism^{2,3}.

The effectiveness of lithium against psychiatric conditions of an essentially cyclic nature such as manic depressive psychosis led Ekblom to a trial of this drug in patients with cluster headache with promising results. Ekblom's observations of the beneficial effect of lithium in cluster headache were confirmed by Kudrow in a larger series of patients. Graham pointed out that the behaviour of the patient during a headache which may consist of running, screaming, head banging, pacing and other frantic and bizarre actions may remotely resemble a manic attack. He suggested that the effect of lithium on cluster headache may be presumably, because this disorder shares several characteristics with manic depressive disease⁴.

CASE HISTORY

A 33 years old male of African origin presented with a long history of cluster headache. His condition started at the age of 11 years with unilateral attacks of severe periorbital headache. The attacks used to occur on a yearly basis during September/October of each year and each episode would last for 6 to 8 weeks. The headache was unilateral on the right side and always associated with Horner's syndrome on the right side, lacrimation, rhinorrhea, agitation, and screaming.

The attacks used to last between 45 minutes up to one hour.

At the age of 14, the patient was prescribed different pain killers including Diclofenac sodium, Ibuprofen and paracetamol. The patient continued to take pain killers when required for several years with no benefit.

The patient has had C.T brain with contrast, C.T sinuses and MRI brain and they were all normal.

The patient had a formal diagnosis of cluster headache at the age of 25 and he was prescribed prednisolone tablets 5 mg b.d as a prophylactic treatment and sumatriptan tablets 50-100 mg P.R.N during attacks (max tds). His condition improved dramatically and the attacks were well controlled with these medications.

Few years later (2004) the patient had another episode as usual in September/October and he had a repeated prescription of prednisolone and sumatriptan tablets but unfortunately with limited benefit. The sumatriptan tablets were changed to subcutaneous injection form and he was also prescribed oxygen 8L/minute during the attacks which resulted in a better control of the acute attacks. Unfortunately, during this episode the patient was having up to eight attacks per day which made the benefit of the sumatriptan injection limited as the manufacturer recommend a maximum dose of two injections (i.e. 12 mg) /24 hrs.

He was then started on verapamil tablets (40mg tds) for prophylaxis but unfortunately he developed side effects in the form of fatigue, dizziness, and bradycardia and accordingly it was stopped immediately. He was then tried on indomethacin tablets but they had no effect and were stopped after a week. Then he was started on lithium carbonate 400 mg nocte which was increased to 600 mg nocte and he continued on this dose for 6 weeks only. Since he was started on the lithium there was a dramatic improvement in his condition. Initially, the frequency and the intensity of the attacks were significantly reduced and the patient did not even use any

M B Abdel-Maksoud, M.B.CH.B, MRCPsych. Queen Elizabeth Psychiatric Hospital, Edgbaston, Birmingham, UK

A Nasr, M.B.CH.B, MSc, MRCPsych. Long Bridge Health and Community Centre, 10 Park Way, Rubery, Birmingham, UK

Correspondence:

Dr. M B Abdel-Maksoud

sumatriptan injections. After 1 week the attacks stopped completely (i.e. at week 3 of this episode). Lithium level was checked 12 hours post dose and it was stable at 0.4mmol/l. The patient had few side effects mainly in the form of fine tremors, polydipsia, and polyurea but he was able to tolerate these side effects.

The patient was followed up and so far he had no further episodes for 3 years after the last episode. This patient does not have any other medical problems and he has no family history of similar conditions.

DISCUSSION

A number of trial showed that lithium is effective in the management of cluster headache. Ekbom treated 5 males with cluster headache (3 of them showed chronic symptoms). Lithium was administered in the form of slow release tablets and the serum concentrations maintained between 0.7 and 1.2 mEq/l. In all 3 patients with chronic cluster headache, lithium treatment gave an immediate, partial remission of the headache; withdrawal of the drug caused an increase of the attacks while a second period of treatment resulted in definite improvement. Lithium was also found effective in the 2 patients with episodic cluster headache⁵.

In another study by Karl Ekbom, when he treated 19 cases of cluster headache with lithium, he concluded that patients with chronic cluster headache had immediate improvement after starting lithium. He also concluded that in all 7 patients with acute periodic symptoms lithium was almost entirely or entirely without effect⁶.

The results of lithium in chronic cluster patients have also been confirmed by Kudrow. He treated 32 patients, unresponsive to conventional prophylactic and systemic drugs. Therapy was maintained over a period of 32 weeks. 6 patients had intolerable side effects. Of the remaining 26 patients, 25 obtained marked improvement. Kudrow also compared lithium with methysergide or pridnisolone and found that it was significantly superior to these drugs⁷.

Mathew (1978) has described 31 patients, 14 with episodic and 17 with chronic form: 80% of the former and 84% of the latter group showed a definite improvement within 2 weeks, a little faster than the response in mania^{2,3}.

Between January and December 1980, 31 patients (out of a total number of 48 patients with cluster headache who were seen at Princess Margaret migraine clinic at Charing Cross Hospital) were given lithium carbonate (priadel initially 800mg at night). 14 patients showed a marked improvement in the 1st week, having no attacks or no more than a single mild one; 10 patients showed a lesser improvement, with one severe attack or several mild ones during the week. In the 7 remaining patients, 5 patients did not improve significantly on this dose, 1 patient did not attend the follow up and 1 patient showed a smaller improvement³.

The short and long term effects of lithium carbonate in 90 patients with episodic (68 cases) and chronic (22 cases) were reported in a study by Faustino Savoldi et al in 1983. The results showed that lithium was highly

effective in the great majority of patients with chronic cluster headache. It also proved that lithium was also effective in episodic cases as the drug decreased the frequency and the intensity of the attacks over a short period of time⁷.

Hanna Damasio et al treated 21 patients with lithium. The results showed an absolute improvement in 11 patients, a partial improvement in 5 patients, and no response in 5 patients. The beneficial results were obtained with dosages lower than those used for effective treatment of bipolar illness⁸.

CONCLUSION

The main value of our case report is the long term effect of lithium in episodic cluster headache. So far, our patient had a 3 years period of remission without any single attack. Before using lithium, the patient used to get an episode on a yearly basis and this certainly indicates that lithium can affect the course, the duration, and the frequency of the condition. It is also interesting to notice the significant improvement of the condition after the first lithium dose in our patient. Our patient did not develop any intolerable side effects and the serum level of lithium was maintained at 0.4 mmol/l. Although there is a controversy about the efficacy of lithium in episodic cluster headache and there is no clear guidance for the duration of the prophylactic treatment, however, our patient responded very well to a 6 weeks course of lithium. We concluded that lithium treatment can be given at low doses (serum level of 0.4 mmol/l) and for the duration of the cluster period (known from previous episodes) and this seems to alter the spontaneous occurrence of the disease. We strongly recommend further research with large number of cases comparing the two levels of lithium (i.e. low and high levels) as it will certainly be of a significant clinical importance if a low serum concentration is proved to be adequate.

REFERENCES

1. Coppen A, Noguera R, Bailey J, Burns BH, Swani MS, Hare EH, et al. Prophylactic lithium in affective disorders - a controlled trial. *Lancet* 1971;2: 275-9.
2. Gerbino L, Oleshansky M, Gershon S. Clinical use and mode of action of lithium. In Lipton MA, DiMascio A, Killam KF editors. *Psychopharmacology: A generation of progress*. New York: Raven 1978: 1261-75.
3. Peatfield RC. Lithium in migraine and cluster headache: A review. *JR Soc Med* 1981; 74:432-6.
4. Mathew NT. Clinical subtypes of cluster headache and response to lithium therapy, *Headache* 1978; 18:26-30.
5. Ekbom K. Lithium in the treatment of chronic cluster headache. *Headache* 1977; 17: 39-40.
6. Ekbom K. Lithium for cluster headache. *Headache* 1981; 21:132-9.
7. Savoldi F, Bono G, Manzoni GC, Micieli G, Lanfranchi M, Nappi G. Lithium salts in cluster headache treatment. *Cephalgia* 1983; 3 (Suppl 1): 79-84.
8. Damasio H, Lyon L. Lithium carbonate in the treatment of cluster headache. *J Neurol* 1980; 244: 1-8.