CHAPTER 20

THE MAN WITH COUGH AND HEADACHE

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Case History

This 62-year-old man had been in good health throughout his life with no history of cardiac disease, hypertension, or diabetes. He rarely attended a physician other than for a "routine checkup" every few years. Recently he had experienced a winter cold and began to have headache for the first time in his life. The headache was present only when he strained or leaned over to tie his shoelaces. The most severe headaches occurred whenever he coughed and he was now quite fearful of doing so.

Upon coughing he would develop the onset of a generalized headache which would become severe within 3 to 5 seconds and last for 1 to 2 minutes. If he had a succession of coughs the pain would remain longer and occasionally persist as a dull ache for up to an hour. He was attempting to avoid any activity that would precipitate the headache.

He denied any other complaints and felt that his cold had resolved months ago. There were no arthritic complaints, or problems with chewing. He was a nonsmoker and drank only on social occasions. He was married with grown children, and the family history was unremarkable. He worked as an office supervisor.

General physical and neurologic examinations were normal aside from his blood pressure which was 160/95 mm Hg. Temporal arteries were pulsatile and nontender.

Questions about This Case

- What is the differential diagnosis in this case?
- Would you investigate this case; if so, with what test?
- What treatment would you offer him?
- Would the response to treatment help you decide on further investigation?

Case Discussion

Cough headache has an unmistakable presentation with its direct precipitation at the time of coughing. A single cough, or at times multiple coughs, will result in the rapid onset of a moderately severe generalized headache that is usually short-lived. Sneezing, bending, stooping, and straining also may produce the same headache leading to an avoidance of these activities. Commonly, this headache is seen in individuals not prone to headache and is not a feature of other primary headache disorders such as migraine.

Although cough headache also has been referred to within the context of benign exertion headaches it appears to be a separate entity. Benign cough headache is recognized in the International Headache Society (IHS) classification (1988) and is defined as a bilateral headache of sudden onset (1) that lasts less than 1 minute and is precipitated by coughing, (2) that may be prevented by avoiding coughing, and (3) that may be diagnosed only after structural lesions such as posterior fossa tumor have been excluded by neuroimaging.

Cough headache may be present as a benign condition or occur secondary to structural disease; usually in the posterior fossa or cranial-cervical junction. The age of presentation may be an important clue in differentiating benign from secondary causes. Although the condition of cough headache has been reported in a wide age range of patients, most with secondary causes are under 50 years of age, and those with the benign variety over 50 years. Males predominate in all reported case series.

Although available literature is conflicting, benign cough headache is the more common entity seen in clinical practice. An older male with typical symptoms and no other

neurologic disease is a familiar profile for most headache specialists. Findings of the investigation are most often normal due to the low incidence of secondary causes. Although the mechanism is unknown, treatment is often successful using indomethacin. The response is frequently immediate. Gastrointestinal side effects can be a problem and require other management strategies. No other agents are useful although some patients intolerant of indomethacin may respond to other nonsteroidal anti-inflammatory drugs such as naproxen. There are some recent reports of lumbar puncture being effective in terminating cough headache. Secondary cough headache is most commonly associated with Arnold-Chiari type I malformations. The mechanism is thought to be due to compression or traction on pain-sensitive dura and other structures as the caudally-placed cerebellar tonsils undergo a pulsatile downward movement during coughing. This also may cause a brief obstruction to cerebrospinal fluid flow. Some patients may have an associated syringomyelia with other clinical symptoms and signs. Patients with secondary cough headache do not respond to indomethacin. Decompressive surgery will successfully eliminate cough headache in these patients.

Management Strategies

1. Diagnosis—benign cough headache
   - Characteristic symptoms
   - Older male
   - Normal examination
2. Investigation—probably unnecessary
   The index of suspicion in this patient is low for finding an underlying structural cause. A therapeutic trial with indomethacin would be the best management strategy. If investigation was deemed necessary magnetic resonance imaging (MRI) scan is the imaging of choice as computed tomography scan would have much lower yield in this clinical problem.
3. Treatment
   Commence treatment with indomethacin 25 mg t.i.d. after meals and increase to 50 mg t.i.d. if inadequate response after 7 days. Further increases are usually of little value and are poorly tolerated. If gastrointestinal upset is a problem add cimetidine 150 mg t.i.d. or consider changing to indomethacin 75 mg rectal suppository.
   Taper or withdraw indomethacin every 4 to 6 weeks and reinstitute if cough headache recurs.
   For long-term use, 75 mg sustained-release indomethacin may be preferred.
4. Treatment failure
   Consider MRI in all treatment failures
   May try naproxen 250 to 500 mg t.i.d. (enteric-coated if necessary)
   Consider lumbar puncture (only after normal MRI)

Selected Readings

Pascual J, Oterino A, Berciano J. Headache in type l Chiari malformation. Neurlolgy 1992;42:1519–21.

Pascual J, Oterino A, Iglesias F et al. Cough headache. Headache Q 1996;7:201–6.

Raskin N. The cough headache syndrome. Treatment. Neurology 1995;45:1784.

Sands G, Newman L, Lipton R. Cough, exertional, and other headaches. Med Clin North Am 1991;75:733–47.

Editorial Comments

Cough headache is an interesting benign clinical entity which deserves attention, particularly in relationship to its differential diagnosis and responsiveness to indomethacin. Many rare and unusual headache disorders require careful exploration to ensure the absence of serious disease, and a trial of indomethacin to establish the diagnosis definitively. Dr. Robinson provides us with an overview of such a case. Once recognized, the management of this entity can be rewarding for the patient and their physician.