

Case Report – Is this ibuprofen-induced aseptic meningitis?

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Introduction

The first case of ibuprofen intake and associated aseptic meningitis was reported in 1978 by Widener et al¹. It is a rare condition and only 36 cases have been described in the literature².

The case

Over a 17 day period, a normally fit and well 28 year old woman presented with recurrent episodes of generalized headaches and associated spreading paraesthesia and anaesthesia affecting one side – but not always the same side. There were four admissions during this period. During some of these nausea, vomiting, confusion, photophobia and dysphasia were observed.

There was no past medical history of note other than suffering from caffeine withdrawal headaches. She was not on any regular medication, did not smoke and reported no intake of alcohol. Her mother suffered from catamenial migraine [migraine related to menstrual periods] and her father reported one episode of migraine in the past. Neither of her parents suffered from hemiplegic migraine.

She made complete recoveries within 10 to 90 minutes and on only one occasion was any abnormal neurology demonstrated; horizontal nystagmus on right lateral gaze and nominal dysphasia. Other systemic examinations were normal. A single episode of low grade pyrexia was recorded.

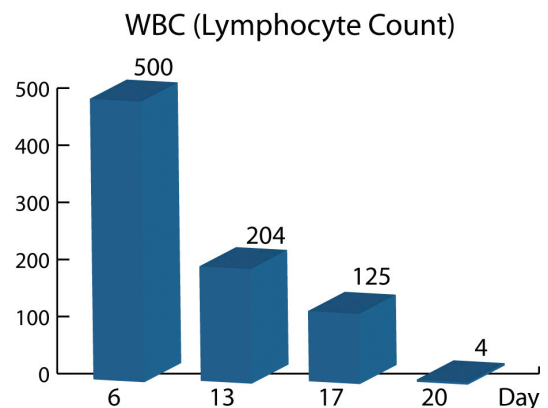
All infective markers were normal. CT scan of her head was normal. Lumbar puncture confirmed CSF lymphocytosis (T-cell, not malignant), raised protein and normal glucose. MRI of her brain and subsequent cerebral MR Angiography were normal. Auto-antibody screen and viral serology were negative. The CSF PCR (HSV 1, enterovirus, TB) and cultures

were also negative. Carotid and vertebral Doppler ultrasound scans were normal.

Topiramate, a migraine prophylaxis was commenced during her last admission, but shortly after discharge it was discontinued due to side-effects. Following her fourth presentation to Newcastle General Hospital, on day 17, there were no further headaches or neurological disturbances reported.

The patient reported an intake of ibuprofen prior to her first presentation only. She had no previous adverse reaction to NSAIDs.

The rapid normalization of her CSF lymphocytosis in subsequent lumbar punctures (see graph), other investigations being negative and the varied presentation of symptoms are in favour of a diagnosis of migraine with ibuprofen-induced aseptic meningitis.



A lumbar puncture was first done on the third presentation - day six. Her fourth presentation was on day 17. Day 13 and day 20 LPs were undertaken to ensure normalisation of lymphocytosis.

Discussion

Ibuprofen-induced aseptic meningitis is a diagnosis of exclusion. The nature of symptoms and neurological disturbances warrant further

investigations as infective or autoimmune pathology, and space occupying lesions need to be excluded. The pathophysiology behind the association of ibuprofen and aseptic meningitis is not fully understood. However, a delayed-type hypersensitivity mediated reaction involving the meninges or a direct toxicity of the drug on the meninges have been suggested^{3,4}. Autoimmune and connective tissue diseases are predisposing factors, but the condition has been previously described; as in this case, in healthy individuals².

This case illustrates an important and perhaps an underestimated cause of meningitis. Other medications have been associated with drug-induced aseptic meningitis:

Trimethoprim

Sulfamethoxazole

Ciprofloxacin

Penicillin

Isoniazid

NSAIDs

Immunoglobulin

Carbamazepine

Azathioprine

There is no diagnostic testing other than a drug challenge, which may have undesirable effects, and so it is not commonly practised¹. Therefore, a thorough drug history - including over-the-counter medication - and demonstration of its use prior to developing symptoms needs to be established.

References

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