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An Overview of HEADACHES

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Forewords
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CHAPTER 23

Case Discussion

VIGNETTE 1

A 20-year-old girl came with history of left-sided headache and left half numbness of 3 days duration. The headache peaked within half an hour and was severe and was associated with vomiting. The numbness which was on the entire left half at onset had receded to be faciobrachial of lesser intensity in 2 days.

Even though she had headaches earlier, this was the worst ever headache she had experienced and was associated with numbness. This headache could be considered a thunderclap headache and as she also had numbness very likely there could be an underlying cause. The magnetic resonance imaging (MRI) showed diffusion restriction in the right thalamus corresponding to the numbness on the left side suggestive of ischemia. However, this would not explain adequately the worst ever rapidly peaked headache which she had. The magnetic resonance angiography (MRA) however showed narrowing of the right posterior cerebral artery with irregularities within it which led to the diagnosis of reversible cerebral vasoconstriction syndrome (RCVS).

VIGNETTE 2

Another interesting presentation of RCVS was a 32-year-old lady who had sudden onset of deafness associated with vertigo and vomiting followed by headache was seen by ear, nose, and throat (ENT) surgeon who found no abnormality in the ear and after 2 days treatment had a MRI done which showed blood in one hemispheric sulcus suggestive of subarachnoid hemorrhage (SAH). She improved spontaneously and hence nothing much was done about it. However, she being a young educated, career-oriented lady was anxious to know what happened to her and whether she would regain hearing and what would happen in future. When seen about 3 weeks later for a second neurologic opinion, she had residual hearing loss but no

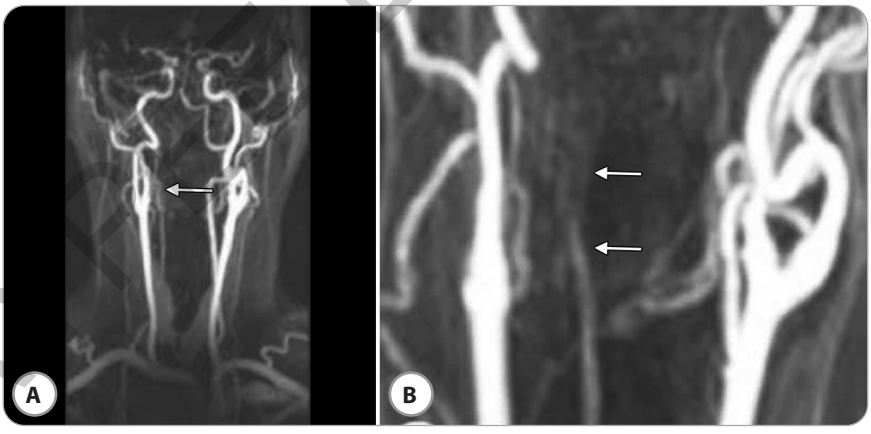
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other signs or new symptoms. She, however, continued to have intermittent headaches though not very severe. Ongoing through her initial MRA, vessel irregularity could be seen. She had also had another MRA done because of the SAH to exclude an aneurysm and on this MRA the irregularity was not seen suggesting the possibility of RCVS. The hearing loss and vertigo were because of ischemia in the anterior inferior cerebellar artery (AICA) territory, and she had an independent site SAH, both of which are known features with RCVS.

VIGNETTE 3

A 43-year-old man presented with acute onset pain in the nuchal occipital region on the right side associated with vertigo when he happened to suddenly look up on hearing a noise coming from upstairs. He did not lose consciousness and did not have vomiting but every time he extended the neck he experienced a sharp headache on right side and vertigo. The mode of occurrence and the description of symptoms suggested the possibility of dissection of the neck vessel. He did not have Horner's which would have clinched the diagnosis. He had already had a MRI done which was normal. As the history was rather typical, an MRA was requested asking the radiologist to look out for dissection of a neck vessel and indeed the right vertebral artery showed an intramural dissection.

Management is with anticoagulants followed by antiplatelet agents **(Figs. 1A and B)**.



FIGS. 1A AND B: Contrast-enhanced magnetic resonance angiography showing a normal proximal right vertebral artery with irregularities and tapering in the high cervical portion.

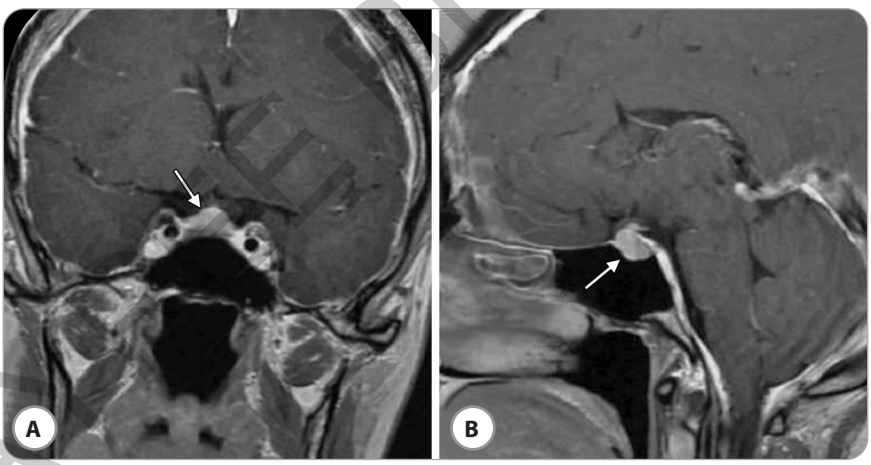
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VIGNETTE 4

A lady in mid 30s came to the headache clinic with history of headaches, which varied in severity and duration and was intermittent. She had taken treatment with a practitioner with temporary relief. On examination, she had no findings but on re-eliciting the history it became apparent that the headaches occurred only when she was sitting or standing and walking and not while lying down. An MRI was requested because of this history which confirmed the presence of pachymeningitis. She was managed conservatively as spontaneous intracranial hypotension (SIH) with increased fluid intake and amitriptyline with improvement, though headaches do continue to occur less frequently **(Figs. 2A and B)**.

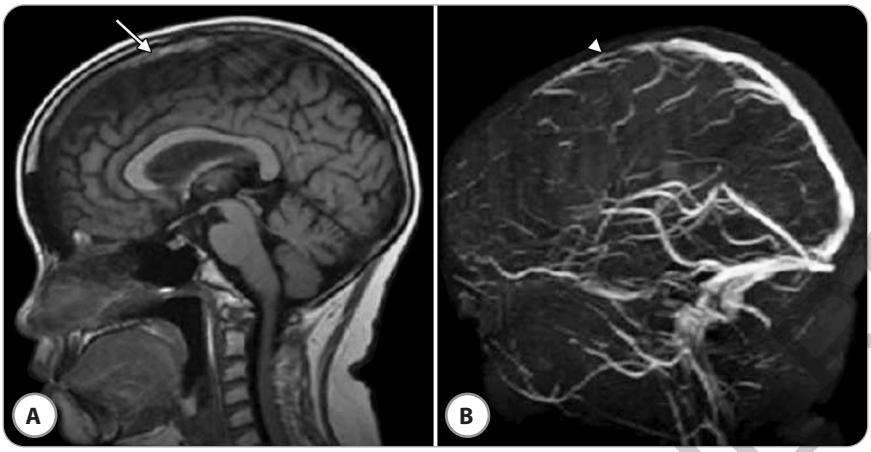
VIGNETTE 5

A young male, 29 years of age, came to the outpatient department (OPD) with history of global headache of about 3 weeks duration with increasing severity but with no associated symptoms. He used to consume alcohol and take more during weekends. He did not show neurological deficit but had papilledema. MRI showed superior sagittal sinus thrombosis, and he was treated with anticoagulants **(Figs. 3A and B)**.



FIGS. 2A AND B: Magnetic resonance examination in patients with intracranial hypotension (IH). T1-weighted post-contrast images: (A) Coronal and (B) sagittal images demonstrate an enlargement of the pituitary gland (arrow) and a significant pachymeningeal enhancement.

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FIGS. 3A AND B: T1-weighted sagittal image showing a hyperintense thrombus (white arrow) within the anterior half of superior sagittal sinus. The thrombus is shown on the 2D-TOF MRV as a focal flow void abnormality (white arrowhead).

(MRV: magnetic resonance venography; TOF: time-of-flight)

VIGNETTE 6

A man in his 60s complained of a nagging but nonsevere headache of close to 2 months duration. The headache had no specific features and the patient was also unable to give further details. The ocular fundi were normal and there was no weakness. However, his right plantar was extensor and a CT scan of the head showed a subdural hemorrhage (SDH), which was subsequently evacuated **(Fig. 4)**.

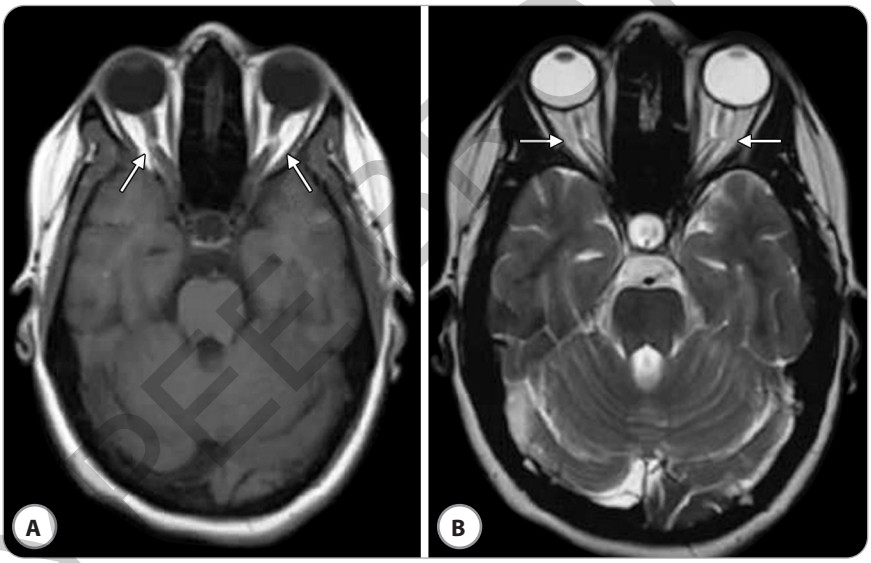
VIGNETTE 7

A 19-year-old college student, mildly obese, came with history of headaches of close to 6 years duration satisfying the criteria of migraine without aura and responding each time to Saridon. However, the headaches were felt to be more severe in the past 2 months, because she did not take Saridon as advised by her parents. During this period she felt her vision was becoming blurred and hence referred by her family doctor to ophthalmologist who did not find anything abnormal and hence referred to neurologist. She had papilledema in the left eye more than the right and MRI showed widening of perioptic sheath and partial empty sella. She is on treatment as idiopathic intracranial hypertension. Magnetic resonance venography (MRV) has been requested as she refused to have lumber puncture (LP) done on her to check the opening pressure of cerebrospinal fluid (CSF) and thereby confirm the diagnosis of idiopathic intracranial hypertension **(Figs. 5A and B)**.

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FIG. 4: CT brain showing left-sided subdural hemorrhage (SDH).



FIGS. 5A AND B: Magnetic resonance imaging of brain. (A) T1-weighted and (B) T2-weighted axial images at the level of optic nerve (ON) reveal bilateral tortuous ON on T1-weighted sequence with prominent cerebrospinal fluid spaces around it on T2-weighted.

VIGNETTE 8

A 63-year-old man had a road traffic accident with a brief period of loss of consciousness and was admitted and observed for 2 days. He had no further symptoms and a CT scan of the head was normal. A week later he had

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intermittent headaches mostly over the posterior head region and another CT scan was done, which was also normal. However, he continues to have intermittent headaches of a pressing nature and gives history of having had headaches earlier in his 20s and 30s. With treatment as for tension-type headache, he is better and the diagnosis is post-traumatic headache.

VIGNETTE 9

A 65-year-old man presented with a focal area of left temporal headache of 1 year duration. The pain was rather constant with exacerbation and remission depending on analgesic use. For the past 1 year he has been treating himself with aceclofenac and paracetamol 1 tablet in the morning and evening for pain relief and if he does not take the medicine he gets headache which is not associated with nausea or vomiting. It is not associated with autonomic symptoms either. The C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR) were within normal range and MRI was normal.

The differential diagnosis in this patient could be the following:
Nummular headache: The localized small area of pain is in favor and also the lack of other symptoms is in favor of this diagnosis. However, the persistent pain is usually not a feature as it is mostly intermittent. Giant cell arteritis is another differential because of the site, persistence, and the age. However, the ESR and CRP were in the normal range. Hemicrania continua described earlier under primary headache is another possibility but lacks the autonomic component. Localized headache could be secondary to an underlying abnormality, which was excluded by a normal MRI. The provisional diagnosis is medication-overuse headache arrived at by a process of exclusion.

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An Overview of HEADACHES

Salient Features

- This short monogram is supposed to be only an overview of headaches and is not extensive in its coverage.
- It provides an orientation to the practitioner on headaches and deals with the intracranial structures, which could give rise to headaches, and discusses the type of headaches—primary and secondary.
- We have outlined an approach on the history to be taken and the examination that needs to be done in the evaluation of headaches.
- The red flags that would alert for a look-out for causes of secondary headaches are dealt with.
- The requirement of imaging and its usefulness in identifying the causes of secondary headaches is also highlighted.
- Brief descriptions of the primary headaches and their treatment are discussed.
- Descriptions of headaches with underlying common causes are also narrated to help in identifying them.
- The challenges faced in identifying a secondary headache are briefly discussed, and the case discussions provided at the end would help in understanding these challenges by highlighting the underlying causes.

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Printed in India

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