



# Headache Medicine Connections

The Official Journal of the World Headache Society

## LETTER TO EDITOR

### Traditional Neurology fortified with Advanced Headache Neurology

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#### ARTICLE INFO

##### Article history:

Received 22.11.2021

Accepted 23.11.2021

Published 17.12.2021

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[https://doi.org/](https://doi.org/10.52828/hmc.v1i2.lte)

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#### ABSTRACT

Traditional neurology relies on history and examination to generate a hypothesis of the localisation and aetiology of the disease process. The hypotheses generated in headache medicine is often limited when it is not combined with the syndromic approach that is used in traditional neurology. The diseases which fall within the syndrome are then confirmed by additional history, examination and investigations derived from advances in the field of headache medicine. This fortification will reduce knowledge gap among clinicians. Patient advocacy and empowerment will also benefit by disseminating this enhanced knowledge.

#### DEAR EDITOR

Traditional neurology relies heavily on the clinical history with which seasoned clinicians often localize the lesion somewhere in the neuraxis and also postulate the etiopathogenesis. This is followed by a focused clinical examination that often confirms the hypothesis derived from the history, although there may be a few surprises now and then. Investigations are extensions of the clinical examination and may not be fruitful, or even be misleading if done without a hypothesis, as it may pick up a needle in the haystack instead of the bothersome rat.

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the haystack instead of the bothersome rat.

In headache medicine too, this approach has been followed all along. However what has been lacking is a detailed head and neck examination which neurologists often delegate to expert colleagues in the field of ophthalmology, ENT and oral surgery. This is because headache medicine has been traditionally a subspecialisation of neurology and the 4 step examination of higher mental functions, cranial nerves, motor system and sensory system are the mainstay. By and large this maybe sufficient, and is also reinforced by the general perception that clinical examination contributes very little in headache disorders, unlike, say, neuromuscular disorders.

The problem with this approach arises when the patient encounters a headache medicine expert, half of whose armamentarium lies with other specialists. This void needs to be filled. Fast forward 21<sup>st</sup> century headache neurology and there is a new breed of headache specialists whose clinical skills are reinforced by training in neuro-ophthalmology, radiology and head and neck surgery.



Example: A 52-year-old lady presents with recent worsening of a long-standing history of episodic bitemporal headache, migraine accompaniments, neck pain and 'sinus headache'. There was postural variations in the headache and also pain on chewing. The final diagnosis of this patient was:

1. Chronic migraine
2. Temporomandibular dysfunction
3. Facial pain with multiple muscle trigger points
4. Trigeminal neuropathy
5. Cervical facet arthropathy
6. Spontaneous intracranial hypotension

Traditional neurology faces a paradox. Application of the principle of parsimony means choosing a diagnosis that may explain all the symptoms. Chronic migraine may explain all these symptoms and this patient had a normal MRI and may have been started only on migraine medications. The paradox is that in medical science progress has been made by splitting the hair and identifying newer pathways, principles and mechanisms. The discovery of CGRP and PACAP are classical examples of chasing newer entities even when there is some other satisfactory explanation. Newer subatomic particles discovered by ramming in the collider is another example. This lacunae in headache medicine may prove to be a very costly mistake.

So how was the diagnosis made? The above 6 differential diagnosis was considered from the beginning of course, but it was clinical examination and diagnostic blocks that revealed the 'pain generators' and 'pain perpetuators'.

1. Multiple areas of sensitisation manifested as allodynia. However, the deeper somatic pain from muscle trigger points that was reduced by diagnostic blocks in the muscles.
2. V1 distribution neuropathy with superimposed neuralgic pains, earlier thought to be stabbing headaches. Complete resolution with V1 blockade.
3. Intraoral examination revealing disease of the temporomandibular joint. MRI of the TMJ showed proportionate pathological changes in the joint. ESR and

Ultrasound helped with exclusion of temporal arteritis and also guided a TMJ injection, which also provided relief to the patient.

4. C3-C4 facet tenderness on deep palpation was relieved with facet joint injection
5. Change in the pain with posture was suspected to be due to motion sensitivity of migraine but Trendelenburg test further raised the suspicion of a CSF leak. This was confirmed with a CT myelogram and the patient improved after a targeted blood patch.

So you see, there may be multiple diagnosis in a patient even if 1 or 2 can explain all the symptoms and signs. This blind spot in identification of multi-site localisations and etiologies is one of the reasons why many head, neck and facial pains are considered 'refractory', ending up in medication overuse, unwanted investigations or random interventions, and causing immense distress to patients and the society as a whole.

This is where the very same vigor and eye-of-an eagle-approach that is used in neuromuscular disorders, is also applied in headache medicine. A peripheral nerve localisation may be axonal or demyelinating, sensory or motor, metabolic or genetic. Some may stop at the peripheral nerve but a specialist completes the diagnosis. Migraine is not just a diagnosis but also a symptom of many other diseases. It is the responsibility of the headache specialist to identify and teach that migraine is an end-of-stream effect of many disorders and that identification of these will reduce morbidity and mortality by early pick up and management. Such that the diagnoses obtained with a 'splitter-approach' lead to a better outcome.

This has been traditionally lacking in medical schools and a root cause analysis should be able to identify the gap. The old wine of traditional neurology should be revised in headache medicine as well, and presented in a new cask of enhanced clinical tools such as the WHS Classification of Head, Neck and Face pains which gives provisions to have proteomic and molecular bases included in the hypothesis and then targeted diagnostically and therapeutically. It is the need of the hour to introduce these concepts and practice in medical schools and also among clinicians.