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Letter to the Editor

Cervicogenic Headache in Forward Head Position is Due not only to the Low Craniovertebral Angle, but also to Numerous other Influencing Factors

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Letter to the Editor

We read with interest the article by Usen *et al*. on a cross-sectional study of the prevalence and influencing factors of cervicogenic headache (CGH) in 117 patients with forward head posture (FHP) [1]. Only half of the patients with FHP suffered from CGH, and those with CGH had a lower craniocervical angle (CVA), a higher Pittsburgh Sleep Quality Index (PSQI), and a higher Beck's Depression Inventory (BDI) than those without CGH [1]. Predictors of CGH were a low CVA and insomnia, with CVA decreasing with increasing body mass index (BMI) and visual analog scale (VAS) [1]. The study is interesting, but some uncertainties remain to be clarified.

The first point is that no definition was given for how normality of the CVA was defined [1]. The definition of normality and abnormality of the CVA is crucial in order to assess how many patients had a normal and how many had an abnormal position of the cervical spine. Was a CVA <50º defined as abnormal? However, even if the CVA is normal, this does not rule out the possibility that an individual patient may suffer from CGH. CGH can also occur in patients with a normal cervical spine position, and patients with a reduced CVA do not necessarily have headaches.

The second point is that the CVA depends on several influencing factors that were not sufficiently taken into account. These include age (the CVA decreases by 1.6º per decade), gender, BMI, respiratory function, visual acuity, balance, gravity, poor shoulder blade movement, muscle imbalances (e.g., weak lower but tense upper trapezius muscle), long screen times, poor ergonomics, and low physical activity [2]. Another influencing factor is the position of the ear and whether or not it has a deformity. CVA also depends on the height of the vertebrae and intervertebral discs. Therefore, it is not the ideal measure for assessing whether or not the cervical spine is in a forward position.

The third point concerns the distinction between neck pain and CGH. What criteria did the authors use to differentiate between the two types of pain? Since neck pain sometimes radiates to the back pr front of the head, it can easily be confused with CGH.

The fourth point is that the presence of CGH in patients with FHP depends not only on CVA, depression, and sleep quality, but also on numerous other influencing factors that were not taken into account. Surprisingly, Hirayama disease, syringomyelia, spinal infarction, Chiari malformations, herniated discs, vertebral stenosis, listhesis, chondrosis, osteochondrosis, spondylosis, spondylarthrosis, arthrosis of the unco-vertebral joints, foramen stenosis, meningitis, encephalitis, stress level, socioeconomic status, personality type, conflict management skills, sleeping position, relationship with relatives, friends, neighbors, and colleagues at work were not mentioned as exclusion criteria in the methodology [3].

The fifth point is that the presence or absence of CGH may also depend on current medication, which was also not included in the analysis. Patients with FHP who regularly take analgesics may not have CGH and thus fall into the group of non-CGH patients. Pain can also be modulated by antidepressants, sedatives, hypnotics, antiepileptics, muscle relaxants, local anesthetics, or even neuroleptics [4]. Patients taking antihypertensive drugs may not complain of headaches, while patients with poorly controlled arterial hypertension may report them.

Before attributing CGH in patients with FHP to reduced CVA, insomnia, or depression, all factors contributing to the development of CGH must be considered and included in the analysis.

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