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Letter to the Editor

Incidence and risk factors of post-cranioplasty seizures



Dear Editor:

We read with great interest the systematic review by Spencer et al. [1] regarding the risk factors for the development of seizures after cranioplasty in patients that sustained traumatic brain injury. The authors have revealed a pooled incidence and risk factors of post-cranioplasty seizures (PCS). We really appreciate the interesting review for their conclusion, it's very useful to have a better understanding of PCS. However, after reading this article, we would like to highlight 2 important questions that it raises.

Firstly, in their study, meta-analysis demonstrates a PCS incidence of 5.1% in the traumatic brain injury (TBI). Shih et al. [2] reported that PCS in the early and late stages were 5.3% and 27.0% respectively. The results of the late PCS are quite different from those of Spencer et al. [1]. Shih et al. [2] also reported the incidence of PCS was (73/238, 30.3%). Of course, the cranioplasty in this report is due to a variety of reasons, not just TBI. We all know cranioplasty is most commonly performed after previous craniectomy for TBI, stroke, after intracranial tumour surgery, intracranial infections or other etiologies. Although the etiology of craniectomy did not increase the risk in their study, the presence of neurological deficits, which represents the severity of brain parenchyma damage, was associated with late PCS. Therefore, larger data on early and late PCS and PCS for different reasons need to be further strengthened in the future.

In addition, Spencer et al. [1] risk factors included increasing age, contusion at cranioplasty location, and use of monopolar diathermy at cranioplasty. There is an association between an extended DC-cranioplasty interval and PCS risk although it did not reach statistical significance. The results are similar to those reported by the Wang et al. [3]. Shih et al. [2] concluded that delayed cranioplasty procedures and seizures before cranioplasty were significantly associated with early

post-cranioplasty seizures. In most studies, it was not reported whether patients were routinely given preventive antiepileptic drugs (PAD). If some patients use PAD and others do not, we believe that this will have a direct impact on the results of the PCS. Finally, we have a doubt. It is so troublesome to study the risk factors of PCS. Why not use PAD directly to minimize the occurrence of PCS?

Conflict of interest statement

We certify that we have no affiliations with any organization or entity with any financial interest or non-financial interest.

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References

- [1] Spencer R, Manivannan S, Sharouf F, Bhatti MI, Zaben M. Risk factors for the development of seizures after cranioplasty in patients that sustained traumatic brain injury: a systematic review. *Seizure* 2019;69:11–6.
- [2] Shih FY, Lin CC, Wang HC, Ho JT, Lin CH, Lu YT, et al. Risk factors for seizures after cranioplasty. *Seizure* 2019;66:15–21.
- [3] Wang H, Zhang K, Cao H, Zhang X, Li Y, Wei Q, et al. Seizure after cranioplasty: incidence and risk factors. *J Craniofac Surg* 2017;28(6):e560–4.

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