



Letter to the Editor

Value of tongue biting in differentiating between epileptic seizures and syncope

We read with great interest the recent review article by Brigo and Co workers.¹ The authors are to be praised for their contribution towards understanding the importance of tongue biting (TB) in the differential diagnosis between epileptic seizures and syncope. In their review, the authors concluded that TB could be a valuable diagnostic tool in differentiating between epileptic seizures and syncope. This question emerges intermittently and other reports generally support their conclusion.^{1,2} Most of the studies have been on adults or have included a wide age range with some children. Unfortunately there is sparse literature on frequency of tongue biting in the specifically in the paediatric population with seizures or syncope. There are also some limitations in reported studies on TB, including the lack of a reference standard, samples of patients that might not be typical of the general population and limitations with regard to the inclusion and exclusion criteria.

We analysed a series of otherwise healthy children with a history either of idiopathic epilepsy or syncope. All patients were assessed in our outpatient paediatric clinics between Aug 2010 and June 2012. Patients with learning difficulties, psychiatric illness, congenital heart disease, acute symptomatic seizures, febrile convulsion or non-convulsive seizures were excluded from the study. Patients under the age of 3 years and those with language barrier were also excluded. Tongue biting was reported by patient and their carers, and was confirmed by the doctors based at our Accident and Emergency Department or by the referral clinician. When available, video recordings were also examined. One of the authors (MASA) assessed all patients and examined the tongues of the patients for bleeding, bruises or scarring in those with suspected TB. Patients with seizures and lack of diagnostic clarity were assessed in our outreach paediatric neurology clinic. Those with syncope and lack of diagnostic clarity were also re-assessed either by a paediatrician with interest in cardiology or by a paediatric cardiologist.

In our study, we were able to examine TB in 157 eligible patients with idiopathic epilepsy and a history of recurrent convulsive epileptic seizures (clonic or tonic clonic seizures). There were 61 females and 95 males. Referral age ranged from 3 to 16.9 years (mean age 9.7 years). Each patient had a history of at least three convulsive seizures. All patients had an EEG and a brain MRI. Tongue biting was also examined among 173 eligible patients with vasovagal syncope. There were 97 females and 76 males. Referral age ranged from 3 to 17.3 years (mean = 11.9 years). Each patient or their carer reported falls during syncopal attacks and four patients had had syncopal convulsions. All patients had an ECG. Other investigations such as echocardiogram were carried out in individual cases to exclude secondary cardiac causes.

Tongue biting was identified in 14/157 (8.9%) patients with epilepsy during at least one epileptic seizure episode. The site of TB was: bilateral ($n = 3$); unilateral right or left ($n = 4$), right unilateral ($n = 5$); left unilateral ($n = 2$). Out of a total of 173 children who had

syncope only one (0.6%) had a history of tongue biting which was at the tip of the tongue and occurred during an attack of syncopal convulsion. Our study shows that tongue biting occurs more in epileptic seizures than in syncope; this is supported by previous studies.^{2–4,6}

In adult population studies, the incidence of TB in epileptic seizure was high, typically 23–27%.^{2,5} On the other hand only 8.9% of our paediatric patients with epileptic seizures had TB. We are not readily able to explain why but one reason could be under-reporting of TB by the children and the fact that there were some younger children who might not have been able to volunteer the information of TB during a seizure and whose parents might not have noticed it.

Our results indicate that tongue biting was not uncommon among children and adolescents with seizures, but very rarely occurred in syncope. Further studies would be helpful in determining the incidence of what appears to be a useful discriminator between epileptic seizures and syncope in children.

References

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