Original article

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Gelastic seizures: a retrospective study in five tertiary hospital centres

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Epileptic Disorders

- Gelastic seizures (GS) are characterized by recurrent bouts of paroxysmal stereotyped laughter or giggling, generally without mirth or appropriate affective tone (Chen *at al.*, 1973; Gascon *et al.*, 1971). They are more likely to be diagnosed during childhood, classically associated with hypothalamic hamartoma (HH) (Striano *et al.* 2009).

- GS can consist exclusively of laughing or be associated with general autonomic arousal, motor automatisms or disturbed consciousness (Cerullo *et al.*, 1998).

- Most of the patients with GS presented with refractory epilepsy (Striano *et al.*, 2009; Gutierrez *et al.*, 2016).

- Patients submitted to epilepsy surgery had an overall good surgical outcome, emphasizing the importance of this treatment strategy in selected patients (Téllez-Zenteno *et al.*, 2010).

- Despite the strong association between GS and HH in children, other aetiologies and patterns of affected topography, unrelated to HH, are common in patients of all ages.

- Areas involved in the physiological network of smiling and laughter are complex, connecting the hypothalamus with other regions, particularly the temporal and frontal lobes (Wild *et al*., 2003).
- Beside the more common origin, which is the frontal and temporal lobe, GS may also arise from the parietal as well as occipital regions.
- GS have no lateralizing value