



## Should We Assess Pituitary Function in Children After a Mild Traumatic Brain Injury? A Prospective Study

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### Résumé en anglais

The aim of this study was to evaluate the frequency of hypopituitarism following TBI in a cohort of children who had been hospitalized for mild TBI and to identify the predictive factors for this deficiency. A prospective study was conducted on children between 2 and 16 years of age who had been hospitalized for mild TBI according to the Glasgow Coma Scale between September 2009 and June 2013. Clinical parameters, basal pituitary hormone assessment at 0, 6, and 12 months, as well as a dynamic testing (insulin tolerance test) 12 months after TBI were performed. The study included 109 children, the median age was 8.5 years. Patients were examined 6 months ( = 99) and 12 months ( = 96) after TBI. Somatotrophic deficiency (defined by a GH peak <20 mUI/l in two tests, an IGF-1 <-1SDS and a delta height <0SDS) were confirmed in 2 cases. One case of gonadotrophic deficiency occurred 1 year after TBI among 13 pubertal children. No cases of precocious puberty, 5 cases of low prolactin level, no cases of corticotrophic insufficiency (cortisol peak <500 nmol/l) and no cases diabetes insipidus were recorded. Pituitary insufficiency was present 1 year after mild TBI in about 7% of children. Based on our results, we suggest testing children after mild TBI in case of clinical abnormalities. i.e., for GH axis, IGF-1, which should be assessed in children with a delta height <0 SDS, 6 to 12 months after TBI, and a dynamic GH testing (preferentially by an ITT) should be performed in case of IGF-1 <-1SDS, with a GH threshold at 20 mUI/L. However, if a systematic pituitary assessment is not required for mild TBI, physicians should monitor children 1 year after mild TBI with particular attention to growth and weight gain.

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### **Liens**

- [1] <http://okina.univ-angers.fr/claire.briet/publications>
- [2] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=37484>
- [3] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=37485>
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