

## **Endokrinologische Veränderungen nach ETV im Kindesalter**

### **Endocrine changes following Endoscopic Third Ventriculostomy (ETV) in children**

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ETV is a standard procedure for the treatment of obstructive hydrocephalus in children. The main part of the procedure is the perforation of the third ventricle floor (Tuber cinereum). This structure is part of the hypothalamus - pituitary neuronal network of cerebral endocrine regulation. So far there are no systematic data available about endocrine dysfunction following ETV in children.

We examined the last 20 consecutive children who had undergone ETV. Examination included laboratory tests (Cortisol, ACTH, Prolactin, IGF-1, IGF-BP, FSH, LH, fT3, fT4, TSH, Serum Osmolarity, Electrolytes, Glucose, Urea), measurement of weight, height, head circumference; Denver development scale; physical examination; in selected patients x-ray of the left hand. The study had received the ethic commission vote. Consent was obtained from the parents.

The most striking abnormality was Prolactin elevation in 9 out of 20 patients. In all 9 patients this was the only laboratory value that was distorted, all other parameters were normal. Three other patients showed one value abnormality (decrease in FSH and LH, increase in TSH, decrease in IGF-1 and IGF-BP). Nine patients demonstrated irregularities in their weight or height development when plotted to the age determined percentile curves.

We conclude that more patients than expected demonstrated endocrine abnormalities. We have to consider that some of the patients may have endocrine abnormalities secondary to their primary disease (tumor, trauma, meningitis). However, ETV may lead to significant distortion of prolactin values in pediatric patients.

There might be a long term clinical consequence, especially in female patients. Our conclusion is: 1. Prolactin elevation should be discussed when obtaining the preoperative consent. 2. Further studies are necessary, especially pre- and postoperative endocrine evaluation.