

Conclusion ^{18}F -FDG PET/CT is a highly informative imaging technique that enables accurate staging of breast cancer and early detection of metastatic lesions. Its integration into the initial diagnostic algorithm promotes a personalized approach to treatment, reduces unnecessary surgical procedures, and improves overall therapeutic outcomes.

USE OF THE SYNACTHEN TEST FOR CONFIRMING SUSPECTED ADRENAL INSUFFICIENCY IN CHILDREN.

Elbek Mamatkulov Abdumonnanovich, Jieun Choi, Park Antonina Alikovna,
Malika Bahodirovna Mirsaatova,
Specialized Pediatrics Department with Medical Genetics and Pediatric
Endocrinology and Laboratory department of National Children's Medical Center,
Tashkent, Uzbekistan

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Objective: To assess the effectiveness of the Synacthen test in diagnosing secondary, tertiary or iatrogenic adrenal insufficiency, as well as non-classic congenital adrenal hyperplasia (NCAH).

Methods: Serum cortisol levels were determined to use an electrochemiluminescence immunoassay (ECLIA) on the Cobas e601 analyzer (Roche Diagnostics). The assay was performed in accordance with the manufacturer's guidelines. To ensure the reliability and consistency of the measurements, internal quality of control samples were included each day.

We performed the Synacthen test on 13 pediatric patients (mean age 3.5 months; 6 female, 7 male). Suspected diagnoses included secondary or tertiary adrenal insufficiency (6 patients), iatrogenic adrenal insufficiency due to topical or oral glucocorticoid use (6 patients), and one case of suspected non-classic congenital adrenal hyperplasia. Baseline morning cortisol, ACTH, and 17-hydroxyprogesterone levels were measured at 08:00 to rule out primary adrenal insufficiency and classic CAH. All patients were suspected of having adrenal dysfunction.

Between 08:00 and 09:00, an intravenous line was placed, and baseline cortisol (time 0) was drawn. A bolus dose of intravenous Synacthen (250 micrograms-1.0 ml), (36 micrograms/kg body weight) was administered, and follow-up cortisol levels were taken at 30 minutes. In one patient, additional samples for cortisol and 17-OH progesterone were collected at 0, 30 and 60 minutes. A normal response is an increase in plasma serum cortisol more than >430 nmol at 30 minutes after Synacthen.

Results: Among the 6 patients with suspected hypopituitarism, 4 were confirmed to have adrenal insufficiency, while 2 showed a normal response (cortisol >430 nmol/L). Of the 6 patients with suspected iatrogenic adrenal suppression, 5 were confirmed to have adrenal insufficiency, and 1 had a normal response. The patient with suspected NCCAH demonstrated normal cortisol and 17-OH progesterone levels during the dynamic test, effectively ruling out NCCAH. In total, 62.9% of patients were confirmed to have adrenal insufficiency. Main cause of secondary adrenal insufficiency was topical glucocorticoid use for allergic dermatitis without doctors' recommendation.

Conclusion: While the insulin tolerance test is also a valid method for confirming adrenal insufficiency, it is considered risky and challenging in infants and young children with suspected adrenal failure.

This is the first study of its kind conducted in Uzbekistan, and the Synacthen test has since been widely implemented in our center. Previously, the test could not be performed due to the unavailability of the drug. The short Synacthen test is a valuable diagnostic tool that is simple, safe and does not require hospitalization, fasting or complex preparation. Patients only need to reduce their glucocorticoid dose the day before testing. It is particularly useful for assessing adrenal recovery in iatrogenic suppressed patients and determining the appropriate time to discontinue hydrocortisone therapy.

Limitations:

This was a single-center study with a limited sample size. Larger, multi-center studies are needed to validate and expand upon these findings.

OPTIMIZATION OF SURGICAL APPROACH FOR RESECTION OF PEDIATRIC DEEP-SEATED BRAIN TUMORS.

Akramov O.Z.¹.

“National Children’s Medical Center” parkent street, 294, Tashkent 100014

Address: Tashkent, Parkent street, 294

Key words: pediatric deep-seated tumors, surgical techniques, pediatric neurosurgery

Abstract

Background. Deep-seated pediatric brain tumours represent a unique neurosurgical challenge as they are often surrounded by eloquent structures. Minimally invasive surgical resection techniques still represent a complex microsurgical problem. To date, attempts are being made to optimize minimally traumatic options for surgical