


به نام خداوند جان و خرد




Para-Clinical Investigations in the Child with an Acute Seizure Attack

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What para-clinical tests
should be requested
in a child
who presents with an
acute seizure attack?

THE BIG QUESTION



Though encountering an acute seizure attack is not rare at all, the answer to the above question is not always a clear-cut and straight forward one.



The answer,
to a great extent depends on:

the findings of
the history and physical exam
in such a child

In the child with FUS:

- ▶ Only a routine BS and Ca is probably justified because:
 - ▶ The sequels of an undiagnosed hypoglycemia are quite remarkable
 - ▶ Hypocalcemia can easily go unnoticed on clinical basis alone
 - ▶ **BUT** even in these two tests the positive yield is very low (about 6/1000), and some authorities question their value as a routine work-up.

All Other lab tests are indicated only through clinical findings, for e.g. :

- ▶ History of gastroenteritis
- ▶ Detecting hypertension in physical exam
- ▶ History of medications which lower the seizure threshold
- ▶ ...
- ▶ **Check Na or K**
- ▶ **Check for BUN or Cr**
- ▶ **Check for their serum level**
- ▶ ...

When to perform an EEG ?



- ▶ Unless a clear and definite metabolic cause for the seizure can be illustrated, an EEG is indicated in all other cases
 - ▶ as close to the ictal episode as possible
 - ▶ An EEG is helpful both for the diagnosis of the underlying etiology, and also to determine the type of seizure and its prognosis

When to ask for neuroimaging?

- ▶ It is generally accepted that neuroimaging is indicated only when there are **foacl findings** in the history, physical exam, or EEG
- ▶ In an elective setting **brain MRI** is the method of choice
- ▶ In the child presenting with acute head trauma, **brain CT scan** is superior to MRI

The dilemma of a routine LP in the child with 1st FC

- ▶ **The golden principle:** If there is any doubt about existence of CNS infection, an LP should be performed
 - ▶ The younger the patient, the more critical is the role of LP to rule out meningitis
 - ▶ An age of less than 18 months is arbitrarily accepted as the border line age
 - ▶ It is better to err on the side of additional LP than to miss meningitis

Special considerations in the Neonates:

- ▶ There is a much more chance to find a specific etiology, so beside BS and Ca, the following tests will be probably necessary:
 - ▶ Mg
 - ▶ ABG
 - ▶ NH₃
 - ▶ Neuroimaging



Thanks for
your attention