Case13 Print

Location: Emergency Room.

Vital signs: B.P: 108/75 mm Hg; HR 88/min; RR: 8/min; Temp. 36.5° C.

CC: altered mental status, stumbling

HPI:
The patient is a seven-year-old boy brought in by his parents after he came home from a playmate's house and his parents found him to be confused and stumbling; he then became less responsive with garbled speech and somnolence. He had been previously well with no recent infections, no sick contacts. He had gone to school that day and come home appearing to be normal at that time. He then went to a schoolmate's house and returned home several hours later with the above symptoms. SOCIAL HISTORY: He attends second grade at a suburban school. He lives with his parents and two other siblings. His development has been normal. His immunizations are up to date. ROS: no headache, fevers, vomiting, diarrhea, photophobia, joint complaints, rashes, urinary complaints, no seizure activity.

How to approach this case?
This child has suffered an acute change in mental status. Initial management should focus on the ABCs. He needs a brief focused physical exam to guide the differential.

Order:
Pulse oximetry, stat
Supplemental oxygen
Continuous cardiorespiratory monitoring
Finger stick glucose
IV lock
Urine toxicology screen
Narcan (naloxone), IV

Physical exam:
General appearance
HEENT/neck
Heart
Lung
Abdomen
Musculoskeletal
Neuro

Results:
O2 sat 94% on room air.
General: well-developed, well-nourished seven-year-old boy; he appears diaphoretic and cool. Neuro: He mumbles a response that cannot be understood and will not open his eyes to command; he localizes to painful stimuli. HEENT/Neck: Pupils 3mm bilaterally and responsive. Neck supple, no adenopathy: mucous membranes tacky. He has the odor of alcohol on his breath. Heart: regular without murmurs. Lung: respirations are shallow and slow. Abdomen: normal. Musculoskeletal: There is no evidence of trauma.

There is no change in level of responsiveness after Naloxone.
Finger stick glucose is 48 mg/dl.

Order:
D50, 1 ampule, IV
IVF Normal saline bolus 500cc, then at maintenance
Blood alcohol level (BAL)
Serum toxicology panel
Basic metabolic panel, stat

CBC with differential, stat
Accuchecks q 1 hour until stable

Results:
BAL is elevated.
Urine toxicology screen positive for ethanol.
Serum toxicology panel positive for ethanol only.
BMP is normal.
CBC with diff is normal.
Accuchecks normalize.

Order:
Admit to observation unit/floor.
Continuous cardiorespiratory monitoring.
IVF D5 S NS with 20 meq/L KCL at maintenance
NPO until awake
BMP in AM
Repeat blood alcohol level in 12 hours.

Result:
Patient becomes more responsive after 4 hours and is fully awake and back to his baseline by the next morning.
Repeat BAL is within normal limits.

Order:
Discharge home.
Patient education on drug use/toxicity.
Screen for abuse and domestic violence prior to discharge.

Discussion:
This is a school-aged child who presents with altered mental status and hypoglycemia. He had a depressed mental status with shallow and slow respiratory rate and hypoglycemia. This presentation along with helpful information obtained during the physical exam, such as the smell of alcohol, can direct the clinician to look for ethanol intoxication as the cause of this patient's syndrome. Typically children get hypoglycemia and it is not necessarily related to the dose or blood level of the ethanol. They have a depressed CNS secondary to ethanol as a CNS depressant. EVALUATION involves ruling out trauma, infectious processes (particularly CSF infections), sepsis, or other drug intoxication, and then beginning supportive care with detection and maintenance of the airway. IV fluids are given for fluid balance, correction of any electrolyte imbalances and correction of hypoglycemia. Most children respond well to supportive therapy and their prognosis for a full recovery is excellent in the absence of prolonged hypoglycemia and respiratory arrest.

Primary Diagnosis
Child Intoxication