

Location: Emergency Room

C.C: A 42-year-old alcoholic male presents in a state of confusion.

Vitals: Pulse:102/min; B.P:160/88 mm Hg; Temp:99.9° F; R.R:26/min.

HPI:

A 42-year-old male, who chronically abused alcohol for the last 10 years, is brought to the ER in a state of confusion. His family reports that he has been having auditory hallucinations, tremors, nausea, fever, tachypnea, 2 episodes of non bloody vomiting, and insomnia for one day. He was seen on two previous occasions in the ER for alcohol intoxication. Further questioning reveals that he drank excessively three nights ago prior to the development of these symptoms. There is no complaint of headache or neck stiffness. He denies use of prescribed or recreational drugs. There is no history of fall or trauma. He has no known allergies. He is not taking any medication. SH: He is un-married and has no children. He lives with his parents. He has been drinking alcohol for twenty years. He used cocaine for some time 5 years ago, but quit. He smokes occasionally. ROS is unremarkable.

How to approach this case?

Here we are dealing with an alcoholic patient who is most likely suffering from withdrawal/delirium tremens. Delirium tremens is a serious form of alcohol withdrawal, which is characterized by disorientation, hallucinations, tachycardia, high BP, fever, and diaphoresis. It typically occurs between 2 to 3 days after last drink. However, it may occur up to 7 days. Examination is performed to find out signs of alcohol related diseases like liver disease and pancreatitis as well as to rule out other causes of altered mental status (infection, trauma).

We will perform relevant examination, draw samples for labs and immediately start treatment in the emergency department.

Order the physical examination:

General
Heart and Lungs
Neuropsychiatric
HEENT/Neck
Abdominal
Extremities

Results of the examination:

Significant findings on examination are tachycardia, tachypnea, hyperthermia, diaphoresis, tremor, ataxia, disorientation, and hallucination. His mucous membranes are dry. No neck stiffness or other meningeal signs present.

Mild hepatomegaly is present.

Patient is confused, disoriented, combative and abusive.

Heart and lungs are clear.

Pupils are equal and reacting to light. No papilledema.

No peripheral edema

Emergency care:

Pulse oxy, stat and continuous

Supplemental oxygen, inhalation, continuous

Cardiorespiratory monitoring, continuous

IV access

IV normal saline bolus then continuous

Blood glucose, stat (chronic use of alcohol may result in hypoglycemia due to decreased glycogen stores)

NPO except meds

EKG, 12 lead, stat

IM thiamine, continuous

PO folic acid 1 mg daily
IV Lorazepam, continuous for moderate sedation
Soft restraints
Aspiration precautions

Tests can be ordered once emergency measures are taken.

Labs:

CBC, stat (as alcoholism cause hematological abnormalities like thrombocytopenia and macrocytosis, and also to look for evidence of associated infection which will cause elevation in WBC counts)

BMP, stat

LFTs, stat (for alcoholic liver disease)

PT/INR, stat (associated liver disease and its coagulopathy)

PTT, stat (associated liver disease and its coagulopathy)

Serum magnesium, stat (hypomagnesemia may be associated with alcoholism)

Serum phosphate, stat (hypophosphatemia may be associated with alcoholism)

Draw blood for culture, stat (infection may be associated with DT)

ABGs, stat (to exclude alcoholic ketoacidosis)

Urine toxicology screen, stat

Blood alcohol levels, stat

Chest X-ray, PA view (to rule out frequently associated chest infection and possibility of aspiration in a patient who has altered mental status)

CT scan of head, stat (to rule out associated head injury)

(Lumbar puncture, stat (to exclude meningitis because you should not miss meningitis) - If you don't suspect meningitis like in this cases, you don't need to perform this.)

Results:

Labs are significant for macrocytosis (MCV of 110fL), and mild degree of hyponatremia (Na of 134 meq/L). Mg is low. Phosphate is low. Blood glucose is 50. LFTs are nearly normal except mild hypoalbuminemia. CT scan of the head is WNL. CXR- shows no abnormalities. Blood alcohol levels are WNL. Urine toxicology is negative. Very mild elevation of PT is noted. ABG showed elevated pH and low PCO₂.

Review orders:

IV 50% glucose (after administration of thiamine)

Discussion:

- Alcohol is a CNS depressant and sudden withdrawal from it causes hyperactivity of some parts of CNS especially of sympathetic nervous system. Minor withdrawal symptoms include tremors, insomnia, anxiety, headache, and diaphoresis. They usually occur within six hours of withdrawal and resolve within one to two days. Sometimes generalized tonic clonic seizures occur within 48 hours of withdrawal. Withdrawal may result in dehydration, hypokalemia, hypomagnesemia, and hypophosphatemia. Dehydration is due to diaphoresis, hyperthermia, and tachypnea. Hypomagnesemia is most frequent with delirium tremens and may be a predisposing factor for alcohol withdrawal seizures. Hypophosphatemia results from malnutrition and may cause heart failure, and rhabdomyolysis.
- Alcoholic hallucinosis is characterized by hallucinations occurring within 12 to 24 hours of alcohol withdrawal. These hallucinations are mostly visual. Sensorium remains intact in cases of alcoholic hallucinosis.

Treatment of alcohol withdrawal syndromes:

The patient must be reevaluated frequently and other similar conditions like trauma, infection, liver failure, metabolic abnormalities or drug overdose must be ruled out. CT scan and lumbar puncture are very important when patient presents with altered mental status, and fever. After excluding co-morbid diseases, symptomatic treatment is begun. Patient is placed in a quiet environment. His volume deficit is calculated and replaced. Patients with DT are kept under mechanical restraint. Multivitamins containing folate are given to all patients.

Thiamine needs to be given before glucose to decrease the risk of precipitating Wernicke's encephalopathy and Korsakoff's syndrome. Deficiencies of electrolytes should be corrected. Patients at high risk need to be shifted to ICU.

The standard vitamin therapy:

Thiamine 100 mg IM X 1 on admission, then Thiamine 50 mg orally once daily for 3-5 days
Multivitamin one tablet once daily
Folate 1 mg orally once daily

DT is treated initially with lorazepam IV (2 - 4 mg IV q 1 hour prn, and then taper to q 2, 3, and 4 hours). Once the patient vitals are stable and can take oral medications chlorthalidone (Librium) protocol can be followed.

The standard Librium protocol:

Day 1 Librium 50 mg po q 4 hours X 6
Day 2 Librium 50 mg po q 6 hours X 4
Day 3 Librium 25 mg po q 4 hours X 6
Day 4 Librium 25 mg po q 6 hours X 4

Oral chlorthalidone is given to patients with history of delirium tremens, seizures, or prolonged and excessive alcohol intake.

When do you give antipsychotics?

Phenothiazines should not be used as they lower the seizure threshold. However, haloperidol is associated with low risk and may be used in combination with benzodiazepine for agitated patients.

After acute treatment, all patients should be screened for alcohol dependence, and should be considered at risk for recurrent episodes of withdrawal. In-hospital evaluation is recommended, and long-term follow-up is crucial.

Order review:

Place the patient in the ICU
Continue IV lorazepam,
Haloperidol, IV, PRN (Only if the patient is agitated)
Input/ output charts
IV normal saline, continuous
IV Multivitamins containing folic acid
Replace phosphate
Replace magnesium
Vitamin K, IV one dose daily for 3 days if the PT and INR are elevated
Brief history and physical for every 1 to 2 hours until you see good improvement
Once patient is stable and can eat, discontinue IV Lorazepam then start chlorthalidone, PO continuous

After the patient has recovered fully, we do the following

Order Review:

Rehabilitation
Alcoholics anonymous
Counsel about safe sex practices, limit alcohol intake, smoking cessation, drive with seat belt, and safety plan.

Primary Diagnosis

Alcohol Withdrawal