Original Article

Prochlorperazine Induced Dystonia / Dyskinesia : Mimicking As Acute Stroke

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Abstract

Prochlorperazine is frequently used in the treatment of refractory nausea and migraines. Known side effects include extrapyramidal symptoms such as akathisia, dyskinesia and dystonia. We report a hypertensive male taking prochlorperazine for dizziness and vomiting in ward who developed hemidystonia, which triggered an acute Code Stroke Response .

Introduction

Stroke is a leading cause of death and permanent disability among adults.[1] Intravenous fibrinolytics improve outcomes in patients with ischemic stroke.[2] The efficacy of fibrinolytic therapy is highly time-dependent, needing efforts to reduce the time to diagnosis, imaging and medication.[3-4]

Prochlorperazine, a dopamine receptor antagonist with a central site of action, has been reported to induce extrapyramidal symptoms when used to treat nausea and vomiting.—with features that can often be mistaken for a stroke. Patients with psychiatric disorders, elderly patients, or those younger than 20 years old are at increased risk. Recognizing the clinical signs facilitates an accurate diagnosis and appropriate treatment.

Case presentation

We report a case of 67-yearshypertensive male presented to ICU from ward complaining of sudden onset slurring and difficulty in speech , left side hemiparesis , restlessness .

His vitals were blood pressure of 130/76 mmhg , heart rate 96 beats/min, respiratory rate 25/min,temperature 36.9C and oxygen saturation of 100% on room air. His face was symmetric with small amount of accumulated saliva. He was not able to lift his left arm and leg. The rest of cranial nerveexamination were normal.

Immediate Head CT done as per Stroke Protocol and it was found to be normal except for age related changes. All investigations including biochemistry ,liver,coagulation panel and complete count were normal. While patient was being prepared for CT Scan itwas observed that patient wanted to speak or tell something , was protrudingand repeatedly moving his tongue which raised suspicion for EPS(Extra Pyramidal Syndrome).

Upon enquiring his ward medication and history it was found that he was admitted for evaluation of dizziness, vomitingfor three days and receiving Telmesarton 40mg ,Prochlorperazine 10mg, Betahistidine 8mg , Ondensetron 4mg for dizziness and nausea. He was comfortable in ward and advised discharge . Elective head

CT was also doneearlier to rule out any central cause of dizziness/vomiting which was normal except for age related changes at the time of admission. Patient had taken six (10mg) doses of Prochlorperazine orally , with last dose 2 hr prior to symptom onset. In view of EPS we stopped Prochlorperazine and given 1mg Midazolam and 50mg Diphenhydramine followed by another 1mg Midazolam. His symptoms started to improve rapidly and motor symptoms resolved within 48 hrs with near complete resolution by next three days. Followup evaluation 15 days later was completely normal .

Discussion

This patient symptoms appeared after a short exposure to a relatively low dose of Prochlorperazine. Many case reports describe such Extra pyramidal side effects associated with taking this drug, including akathisia, dystonia, neuroleptic malignant syndrome, psychiatric illness, and meningitis.[5-11]A recent systematic review of antipsychotics shows that Prochlorperazine is safe and effective for the treatment of delirium in hospitalized patients.[12]

Our patient experienced an EPS, specifically dystonia, which was precipitated by the appropriate use of prochlorperazine for nausea. Dystonia is a neurologic movement disorder in which sustained muscle contractions causes twisting and repetitive movements or abnormal postures.
It is characterized by spasm of neck muscles, torticollis, extensor rigidity of back muscles, opisthotonus, trismus, swallowing difficulty, and dysphonia. These symptoms usually subside within a few hours, and almost always within 24 to 48 hours, after discontinuation of the drug.
Akathisia is a neuropsychiatric syndrome characterised by restlessness. There are subjective as well as objective symptoms .Akathisia may range in intensity from a mild sense of disquiet or anxiety, which may be easily overlooked, to a total inability to sit still, associated with overwhelming anxiety and severe dysphoria that are manifested as an almost indescribable sense of terror and doom. In the most severe cases of dysphoria the patient is literally compelled to take action, at times leading to suicide attempts.

Akathisia is classified according to the onset of symptoms after starting treatment- acute,
tardive, withdrawal or chronic akathisia. The prevalence rates vary wildly from 5% to 36.8%.
As it is a drug induced effect, prevention is better management than cure. If a particular patient is in the high risk group, standardised titration and the use of novel antipsychotics are successful prevention measures.

Dyskinesia refers to an impairment of voluntary movement characterized by rhythmic, involuntary movements of the tongue, face, mouth, and jaw (eg, puffing of cheeks, chewing movements, tongue protrusion, , puckering of mouth,), or involuntary movements of the extremities. In tardive dyskinesia, the symptoms continue or appear even after the discontinuation of the culprit drug. Tardive dyskinesia is an uncommon, disabling, and dreaded complication of Prochlorperazine therapy and was not present in this patient.

Transient ischemic attack (TIA) may present with a variety of symptoms that can be confused with other neurologic diseases. Symptoms of TIA start abruptly and usually resolve within 24 hours. CT SCAN of the head and MRI of the brain are usually negative. Stroke may present with symptoms similar to TIA, but the symptoms persist for more than 24 hours. MRI of the brain usually shows changes of infarction after a stroke, which excluded this diagnosis in our patient.

Conclusion

Signs and symptoms of Prochlorperazine-induced extrapyramidal reactions can mimic the signs and symptoms of a stroke, as was seen in this patient. Stroke mimics are common in emergency medicine with 31% of patients with suspected stroke were later determined to have a stroke mimic.[13]

The most significant potential harm for a patient misdiagnosed with an ischemic stroke is receiving intravenous thrombolytics developing an intracranial hemorrhage. The search for stroke mimics might be especially important when use of fibrinolytic stroke therapy is considered.[14] This may increase the level of oxidative radicals.[15]

Emergency clinicians should be aware of EPS in patients taking antidopaminergic agents. Other than the more common presentations of EPS, such as acute akathisia and dystonia/torticollis that may be seen from single doses of antidopaminergics (e.g., metoclopramide, prochlorperazine) given in the ED, emergent acute airway obstruction due to supraglottic dystonia has also beenreported.[16]

In addition to obtaining a list of medications thatmay contraindicate thrombolytic use, emergency cliniciansneed to remain vigilant of antidopaminergic agents that maymimic common stroke-like symptoms, especially in theelderly, who may be more sensitive to these agents. Empiricadministration of anticholingeric agents in every patientwith stroke-like symptoms is certainly not warranted andmay confound subsequent neurological exams.

Lastly ifantidopimenergics are on the medication list during an acuteevaluation of stroke, clinicians should broaden the differentialto include the possibility of EPS as part of the rapid initialevaluation of a patient with suspected stroke.

Conflict of Interest Nil

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