Case Report
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Haloperidol induced unilateral temporomandibular joint dysfunction

Abstract

Haloperidol is a typical antipsychotic that is frequently used all around the world for adults and children. The ease of use of Haloperidol and its efficacy makes it first line in controlling aggressive behavior in emergency rooms despite its well-known effects of causing acute dystonic reactions, like other drugs in its class. The present case is that of a young man who developed temporomandibular joint dislocation with radiologic evidence, following a single dose administration of Haloperidol in the emergency room. This presentation is a rare sequela of acute dystonic reaction, described only in few case reports but nonetheless one that every emergency room physician needs to be cognizant.

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Introduction

Haloperidol is a butyrophenone First-Generation Antipsychotic (FGA) that non-selectively blocks postsynaptic dopaminergic D_2 receptors. It is available in the oral, intramuscular immediate release, decanoate and intravenous formulations. Despite its propensity to cause Extrapyramidal Symptoms (EPS), Haloperidol is frequently prescribed to treat psychotic disorders, tics, bipolar disorder, delirium and to control severe behavior problems in adults and in children. EPS include acute dystonic reactions, parkinsonian syndrome, akathisia, tardive dyskinesia, and neuroleptic malignant syndrome. Acute Dystonic Reaction (ADR) is a well-known extrapyramidal adverse effect of Haloperidol and other antipsychotics particularly FGAs. ADR is regarded as the most disturbing and with a potential to be life threatening as it may result in laryngeal dystonias. The tendency for these class of drugs to produce EPS has made atypical antipsychotics the first line choice treatment for schizophrenia. The reported incidence of ADRs is variable, but estimates are between 2.5-10%. Potential risk factors for dystonia include young males, a history of dystonia and recent cocaine use or abuse. Although ADR is commonly reported, temporomandibular joint dislocations from same is rare and only reported in a few case reports.

Case presentation

We present the case of a 34-year-old man with a past medical history of seizure disorder and a psychiatric history of Attention Deficit Hyperactivity Disorder (ADHD) and Bipolar disorder. He was brought into the psychiatric emergency room by emergency services on account of a reported suicidal attempt. The patient endorses recurrent depressive moods, poor sleep, persistent feelings of guilt, low energy, feelings of hopelessness and persistent suicidal ideations. The patient he had only recently cut his own wrist a few days before admission. The context of the patient's psychiatric decompensation included the anniversary of the death of his father who died two years earlier. The patient endorses opioid dependence with at least three overdoses in the past. He also reports perceptual disturbances including auditory hallucinations telling him to kill himself. During the admission process, the patient became verbally and physically aggressive, belligerent, and agitated as he asked to be discharged. In order to calm his aggressive behavior, he was medicated with Haloperidol 5mg IM and Lorazepam 2mg IM. He was subsequently admitted to the inpatient unit and started on Lamotrigine 25mg PO daily and Haloperidol 5mg PO twice daily for psychotic symptoms. The patient's vital signs and EKG were within normal limits on admission, urine toxicology was positive, however, for opioids and methadone. Later, the day after admission, attention was called to the patient who had suddenly developed jaw pain and inability to open his mouth. He was observed to have intense, rhythmic muscle spasms of his neck and face. The patient's tongue appeared swollen and he could only speak with much difficulty. He complained that his jaw was "locked" and painful. The patient was evaluated by the psychiatrist and diagnosed with an acute dystonic reaction (ADR) with a possible right temporomandibular joint dislocation. The patient's medication, Haloperidol was discontinued, and Diphenhydramine 50mg IM was immediately administered. He made an immediate dramatic response as the dystonia abated but his jaw pain, swelling and loss of function persisted. A dental consultation was thereafter requested to assess the patient.

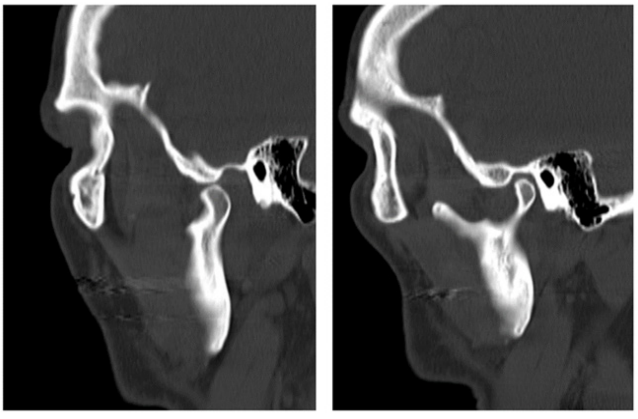

Figure 1 CT image showing a displaced right temporomandibular joint compared to the intact left TMJ.

The dental team agreed with the initial diagnosis of a temporomandibular joint dislocation secondary to acute dystonic reaction. A maxillofacial CT confirmed the suspicion as shown in Figure 1 revealing an asymmetric forward translation of the right

mandibular condyle which articulates with the articular tubercle of the right temporal bone. The Patient was advised to limit opening his mouth in order avoid pain and to prevent further displacement. The patient also reported a rash on his arms which started around the same time as the ADR. On physical examination, maculo-papular rash was observed on the patient's upper extremities, most significantly from mid arm to hands for which he was started on oral prednisolone 20mg daily. Over the following 48 hours, there was a complete resolution of acute symptoms, the patient reported only minimal pain, his jaw range of motion was full, with minimal swelling and facial asymmetry and no clicks or other abnormality on passive and active motions of the temporomandibular joint. The patient's started on Aripiprazole 5mg PO daily (titrated up to 10mg PO daily) and Benztropine 1mg PO bid after discontinuation of Haloperidol. He was later discharged to follow up at the outpatient psychiatry and dental clinic after ten days on the psychiatric inpatient unit with a compete resolution of all acute dystonic symptoms and no evidence of temporomandibular joint dysfunction.

Discussion

Extrapyramidal side effects are thought to result from D_2 receptor blockage in the striatum and it is manifested by spasms in the jaw, and neck often occurring in the first few hours to days of starting an antipsychotic. The association of dystonia with temporomandibular joint dysfunction is however rarely seen, with only a few case reports documented in literature.[1–5] Our patient developed a clinically and radiologically demonstrable jaw dislocation following the administration of Haloperidol. We estimated the Naranjo algorithm scale as 6, suggesting a probable adverse drug reaction.[6] In our patient, symptoms began within 24 hours of an initial immediate release intramuscular injection. The occurrence of dystonic reactions with single doses of antipsychotic, although rare, has also been reported in literature.[3] In this present case, it is significant that the patient's jaw dislocation and swelling resolved perhaps following the short-term use of oral steroids which was prescribed for the patient's dermatologic reaction to the medication. In addition, our patient reported concurrent dermatologic adverse drug reaction and dystonia, which to the best of our knowledge is the first report of such constellation of symptoms associated with Haloperidol.

Haloperidol has a long history with psychiatry, approved by the Food and Drug Administration (FDA) for schizophrenia in 1967. In spite of the long history of clinical use and level of comfort exercised in prescribing this medication, clinicians should be aware and recognize that Haloperidol and potentially other dopamine blocking antipsychotics may result in jaw dislocations as a consequence of dystonia even at relatively low doses especially in emergency rooms where FGAs are frequently used to treat psychotic agitation.

Informed consent

A verbal informed consent was obtained by the authors from the patient to publish this paper.

Acknowledgments

None.

Conflict of interest

The authors have no conflicts of interest to declare.

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