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NEUROLEPTIC INDUCED TARDIVE DYSKINESIA IN A PATIENT ON TREATMENT FOR SCHIZOPHRENIA: CASE REPORT

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SUMMARY

In this case, a thirty six year old patient on treatment for schizophrenia is described with severe tardive dyskinesia. The most likely cause is long term treatment with two highly potent typical antipsychotic medications. The patient was initially treated with Benzhexol, an anticholinergic agent with the potential to induce or aggravate the disorder. This case discusses the common presentation and management of neuroleptic induced tardive dyskinesia.

INTRODUCTION

In the resource constrained setting of most African healthcare facilities, conventional antipsychotic medications are widely used in managing most psychotic illnesses. Their wide use has been attributed to their easy availability and low cost (1). These antipsychotic drugs are characterised by good efficacy, but are associated with a high risk for extrapyramidal side effects which include acute dystonia, acute akathasia (subjective and objective restlessness) and medication induced Parkinsonism. In addition, they carry a 5% to 7% per year cumulative risk of late-onset choreoathetotic movements of the orofacial region, neck, trunk, or limbs known as tardive dyskinesia (TD) (2). Due to their clinical importance, these disorders have been included in the text revision of the diagnostic and statistical manual of mental disorders fourth edition (DSM-IV TR) (3).

A study carried out at Kenya's Mathari Hospital found a tardive dyskinesia prevalence rate of 11.9% among patients using conventional antipsychotics, a rate that was thought to be lower than that reported in Western countries but similar to that in Asian countries (4). In patients on treatment with conventional antipsychotics, the development of other early extrapyramidal symptoms (dystonia, akathasia or Parkinsonism) predicts an increased risk for developing tardive dyskinesia (5).

It is however sometimes difficult to differentiate between neuroleptic induced TD and other conditions which result in orofacial movements such as Huntington's chorea, Sydenham's chorea, and thyrotoxicosis, or other drugs such as L-Dopa, Bromocriptine or amantadine (3).

In this case report, we present a case of a young woman who developed tardive dyskinesia following treatment with two antipsychotics with high potential for extra pyramidal side effects and the clinical approach applied towards treating her condition.

CASE REPORT

A thirty seven year old Kenyan woman was referred from a peripheral hospital to Moi Teaching and Referral Hospital (MTRH) in Eldoret with major complains of abnormal neck posture for four months and involuntary lip smacking, chewing and tongue protrusion for a month.

She had been on outpatient treatment for schizophrenia for the previous seven years at the peripheral hospital and was on combination therapy with depot haloperidol 50 milligrams given as monthly injections and 100 milligrams of chlorpromazine at night. At the time of her presentation, she had not had any active symptoms of schizophrenia for the previous three years.

Her symptoms were at first mild and intermittent, but progressively worsened enough to limit her daily activities including feeding, self care and household chores and necessitated constant care. At presentation she did not have her lower two incisor teeth due to an injury she had sustained from a fall from bed as a result of the gross involuntary movements. These symptoms abated in her sleep.

She was taken to the peripheral hospital and admitted one week after the onset of the lip smacking and orofacial movements. A diagnosis of bacterial meningitis was made, with differential diagnosis of tetanus and cerebral malaria. Cerebrospinal fluid (CSF) samples for culture and microscopy, a random blood sugar and blood slide for malaria parasites were done, none of which revealed any pathology. Both her liver and renal function test findings were essentially within the normal range and so was the complete blood count. Treatment was then initiated with 2 grams of intravenous ceftriaxone twice daily, 500 milligrams of intravenous metronidazole eight hourly and a stat dose of 0.5 milliliters of tetanus toxoid before being referred to MTRH.

On admission to MTRH, a diagnosis of catatonic schizophrenia was initially made and a head computed tomography (CT) scan done to rule out intracranial pathology. The antipsychotic medication was subsequently stopped and the patient put on 5 milligrams of Benzhexol and intravenous fluids and a psychiatry review was sought. Repeat CSF studies, random blood sugars, blood slide for malaria parasites and CT scan done upon admission revealed no pathology. A diagnosis of tardive dyskinesia was made at this point and all the medication including the Benzhexol stopped. Treatment was at first with a six hourly dose of 10 milligrams diazepam for a week. During subsequent psychiatric reviews, her condition had not improved and one week later, the dose of diazepam was increased to 30 milligrams six hourly.

She remained in hospital for a period of two more weeks during which no significant improvement was noted. She was discharged home to be followed up by psychiatry outpatient clinic upon the request of her family and she was booked for review two weeks after discharge.

DISCUSSION

Dopamine hypersensitivity due to up regulation of D_2 receptors induced by antipsychotic blockade remains the most accepted hypothesis for tardive dyskinesia (6). Results from a systematic review of eleven long term studies indicate less incidence of TD (0.5 to 1%) from newer antipsychotics such as olanzapine and quetiapine compared to the conventional antipsychotics such as haloperidol and chlorpromazine (7). This has been attributed to the lower affinity for dopamine receptors and higher affinity for serotonin receptors in the newer agents compared to the conventional ones (6). Other than the medication used, studies indicate that additional risk factors for TD include old age, a long duration of treatment, indiscriminate use of anticholinergic medication and female sex (8).

The diagnostic criteria for tardive dyskinesia includes at least four weeks of symptoms of movement disorder following use of antipsychotic medication for a minimum duration of three months (3). The simultaneous use of two or more antipsychotic medication in management of schizophrenia is controversial (7). The practice is difficult to justify pharmacologically, since the antipsychotic effectiveness of all of these agents appears to be related to the same dopaminergic receptor system (6). The overall advantage of combination therapy in terms of suppressing the active symptoms and improving prognosis compared to single therapy with individual medication has not been clearly elucidated.

The onset and course of TD is variable. At first, the symptoms are mild and may not be easily noticed except to a keen observer. At this stage, the disorder is almost completely reversible by complete cessation of the medication (4). As the symptoms progress, they tend to become more permanent in nature, this may reflect a greater degree of injury to the basal ganglia. If the individual with tardive dyskinesia remains off medication, the dyskinesia remits within three months in one-third of the cases and by 12-18 months in more than 50% of cases, although these percentages are lower in older persons (6).

Although tardive dyskinesia following long-term antipsychotic therapy has been recognised for many years, treatment remains unsatisfactory. Treatments such as vitamin E, benzodiazepines, and clozapine and branched-chain amino acids have been used, but none has been shown to be superior or effective (9). Indeed, the role of benzodiazepines in managing medication induced TD is not clear. In a Cochrane review involving three large scale studies, no clear change in eventual outcome was reported following the use of either of three benzodiazepines, clonazepam, lorazepam and diazepam (10). At the time of discharge, the patient still had active symptoms of TD but her eventual outcome is not known since she did not return for her follow-up appointment.

In conclusion, this paper has presented a case of tardive dyskinesia, which presented a diagnostic and management challenge to clinicians both at a peripheral health facility and at a teaching and referral hospital in Western Kenya. It is important for clinicians to maintain a high index of suspicion in all patients on antipsychotic medications who develop movement disorders, and differentiating tardive dyskinesia from other movement disorders is important in determining the appropriate management.

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