

A rare case of flupirtine induced loss of speech.

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ABSTRACT

Anarthria can be caused by CNS depressant drugs but flupirtine consumption leading to it, is not documented till date. Since it is a drug with unique properties and is being more commonly used by practitioners, caution needs to be taken in noting rare adverse effects. In this short communication, a case of flupirtine induced loss of speech is reported.

INTRODUCTION

Flupirtine is used as an analgesic which is a non opioid and non NSAID. It is a centrally-acting indirect N-methyl-D-aspartate (NMDA) receptor antagonist via activation of potassium channels which has been shown to be effective in different kinds of painful conditions.¹ It has a dual therapeutic effect with both analgesic and muscle relaxant properties that has utility in the treatment of pain, including that associated with muscle tension.² Flupirtine is a triaminopyridine derivative having a chemical structure - 2-amino-3-ethoxy-carbonylamino-6-4-fluoro-benzylamino-pyridine. Since it is devoid of common side effects of NSAIDs and opioid analgesics, flupirtine is being used for chronic painful conditions and pains associated with muscle spasms.

This is a case report of flupirtine induced loss of speech which is not documented till date.

CASE REPORT:

The patient was a female aged 55 years weighing 52 kg. She was prescribed Flupirtine 100 mg twice daily in outpatient department for pain in the right elbow joint diagnosed as tennis elbow which she was suffering from 3 years but exacerbated since 7 days. She consumed one flupirtine capsule on the first day in the night and another one, in the next morning. She initially developed loss of power in all the muscles, difficulty in swallowing and slurred speech within two hours of consuming flupirtine in the morning which later progressed to loss of speech. The patient was under observation and she recovered uneventfully and was discharged a day later. After examinations including laryngoscopy, it was evaluated that she had drug induced generalized hypotonia and anarthria. Her higher mental functions were normal. Her thought processing was normal during the adverse event

and had no sedation but was nervous. All other examinations were normal.

Causality assessment was done as per WHO UMC scale and it was certain that flupirtine caused these adverse reactions in the patient

DISCUSSION:

Dysarthria is characterized by neurological defects which interfere with outward flow of speech, resulting in the percept of disturbed speech rhythm.³ It is a condition in which problems effectively occur with the muscles that help produce speech, often making it very difficult to pronounce words. It is unrelated to any problem with understanding cognitive language. Dysarthria that has progressed to or presents as a total loss of speech may be referred to as anarthria. Many centrally acting drugs like narcotics, phenytoin and alcohol can cause dysarthria.⁴

In this case the demographics, personal history, medical history, social and family history did not suggest any underlying disease leading to loss of speech. The time sequences of start of the suspected drug, flupirtine and onset of loss of speech are consistent with the diagnosis. The patient was also not consuming any other forms of medications. Although no rechallenge was attempted, the symptoms were recovered at 16 h of the intake of the suspected drug which corresponds with the half-life of flupirtine which is 6.5 hours for 100mg oral administration in healthy volunteers.⁵ Though the normal adult dosage can vary from 300 mg/day upto 600 mg/day, in this case, a total dose of 200 mg led to the development of adverse effects.⁶

Flupirtine has documented adverse reactions like dizziness (11%), drowsiness (9%), pruritus (9%), dry mouth and gastric fullness (5%), nausea, and muscle

tremor (2%).⁷ In elderly healthy individuals, it was reported to cause transient faintness, dizziness, and lethargy, whereas in patients with renal dysfunction, it has produced transient light headedness and headache. But in liver disease patients, it produced serious adverse effects such as encephalopathy due to increased plasma concentration of the drug.⁸ Symptoms attributable to a central system effect included drowsiness, dizziness, headache, depression, disorientation and hallucinations.⁹ Some of the rare and serious side effects were increased transaminases levels, drug-induced hepatitis, ataxia, tremors, restlessness, and nervousness.

Flupirtine is known to function both as analgesic and muscle relaxant.² The muscle relaxation occurs due to inhibition of both mono- and polysynaptic reflexes mediated by NMDA receptors.^{10,11} This could have led to the paralysis of laryngeal muscles leading to dysarthria which later progressed to anarthria which was supported by laryngoscopy.

CONCLUSION:

This case reports that flupirtine has the capacity to cause drug induced loss of speech. Hence it is advised to take caution for the physicians and orthopedicians during prescription.

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