

The Use of Levomepromazine, a.k.a. Methotrimeprazine, a.k.a. Nozinan, in Child and Adolescent Psychiatry

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Abstract: Levomepromazine is rarely used in child and adolescent psychiatry. Four cases are described where extreme behavioural disturbance responded favourably and promptly to oral prescription. Two additional cases are described where ceasing levomepromazine led to early signs of what was probably tardive dyskinesia, resolving completely.

Keywords: Levomepromazine, methotrimeprazine, Nozinan, child adolescent psychiatry, tardive dyskinesia.

INTRODUCTION

Levomepromazine is a low-potency first-generation aliphatic phenothiazine neuroleptic. It is a low affinity D2 receptor antagonist, has a high affinity for histamine H1, serotonin 5-HT2, and for adrenergic alpha 1, receptors, and a low affinity for acetylcholine receptors. "As levomepromazine appears to possess intrinsic analgesic activity in addition to its antiemetic and antipsychotic actions, it has been used for the symptomatic control of restlessness and vomiting and as an adjunct to opioid analgesics in pain control" [1]. It is indicated in children for restlessness and confusion in palliative care [2]. Compared with other analgesics it does not suppress respiratory function [3].

Antipsychotics are used in the treatment of children and adolescents with tic disorders, irritability, agitation, and aggression, associated with autistic disorder and other pervasive developmental disorders, as well as in youths with disruptive behaviour disorders with and without mental retardation (mostly off-label use) [4].

Levomepromazine has been used in paediatric patients to treat agitation, anger, and aggressiveness [5].

METHOD

Case study.

CASES

Where demographic data is not provided (to ensure anonymity) it was not possible to contact the patient/family in order to obtain permission to publish, or the family preferred the demographic data be omitted.

A paediatrician was prescribing medication for a 13 year old boy. Subsequently I prescribed levomepromazine when I took over the medical treatment. However he developed, only noticeable when laughing, slow tongue twisting movements which resolved when the levomepromazine dose was reduced, and later ceased.

A 16 year old girl was prescribed levomepromazine at a dose of 12.5 mg at night, plus 12.5 mg extra when needed once per 24 hours. Three weeks later she mentioned that it felt like she had a piece of string on her tongue, and a caregiver noticed her "roll her tongue a few times". The levomepromazine was stopped and the tongue movements ceased soon after.

A paediatrician consulted with me about a young person with autism spectrum disorder and mental retardation. He had been, destroying property, and violent, in spite of being administered various medicines. When levomepromazine 12.5 mg late afternoon was added he became "definitely calmer" according to his caregiver.

A 17 year old was referred to a child and adolescent mental health service after he had reached the age limit for a child development service. Diagnoses were severe mental retardation and autism. He was destroying property, had hit a teacher, and was biting and hitting himself. Behaviour patterns were very restricted. He would occasionally run down the middle of the road, and run away from home.

Previously he had been prescribed unsuccessfully, risperidone, clonidine, and fluoxetine. When I first saw him he was taking aripiprazole 5mg twice daily. His parents and support staff were providing consistently good care. I increased the aripiprazole to 10 mg in the morning and 5 mg in the evening. Three weeks later he was hitting people on the bus and when stressed would keep biting himself causing calluses. Thus aripiprazole

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was increased to 10 mg twice daily. Three months later he was running down a main street in front of buses. He broke a car windscreen and continued to damage other property. He then refused to leave the house. Thus I reduced the aripiprazole back to 10 mg in the morning and 5 mg at night and added levomepromazine 12.5 mg up to twice daily as needed for agitation. The parents subsequently reported when he took 12.5 mg twice a day regularly, he was calmer, so this was continued. At a review 10 months later his behavioural repertoire remained more flexible. A trial of gradually coming off the aripiprazole while still taking the levomepromazine led to some regression so it was reinstated. Two and a half years after first meeting with this patient I was able to discharge him from the mental health service to his general practitioner, as he was no longer hurting people or destroying property.

An adolescent with episodes of severe agitation was not responding to support and medications. His weight was just under 60 kg. Levomepromazine was then prescribed and once the dose reached 25 mg twice daily, this led to dramatic improvement.

A 9 year old with a history of psychosocial issues in the developmental history who had also a diagnosis of ADHD, was being treated with intense therapy and methylphenidate 20 mg twice daily and risperidone 0.25 mg for emergencies, in order to minimise violent reactions and threats to self harm. At the age of 11 years he was also prescribed fluoxetine 10 mg in the morning and risperidone 0.5 mg at night to treat anxiety and various behavioural difficulties in combination with ongoing therapy, with some success. At age of 12 years he was being prescribed methylphenidate 30 mg extended release, in addition to the fluoxetine and risperidone, but rage attacks continued. By age 18 years he was being prescribed 75 mcg of clonidine daily to reduce aggression with little benefit and the fluoxetine had been replaced with sertraline 200 mg daily to improve mood. Stimulant medication was stopped due to lack of efficacy, and because it was causing marked weight loss. Then a trial of atomoxetine appeared to aggravate depression. In spite of ongoing multisystemic therapy, violent behaviour continued leading to containment overnight in police cells and appearances in court on several occasions. I subsequently gradually stopped the clonidine plus he chose to stop the sertraline. I initiated escitalopram 5 mg in the morning to treat ongoing depression and added levomepromazine 12.5 mg twice daily. Within 1 or 2 weeks although verbal conflict with the family continued, for the first time in 9 years, violent

behaviour ceased completely and his mood became positive while still taking escitalopram. Twelve months later he remains remarkably and consistently non violent and free from depression. After 9 years of continuous treatment at mental health services he was discharged with follow up from his general practitioner only.

Anecdotally, I have become aware of an adult, with a treatment resistant mental health condition who after he had various medicines ceased and replaced with levomepromazine 100mg at night, commented he liked the medicine change, and was feeling better than he ever had.

DISCUSSION

I resorted to prescribing levomepromazine for target behaviour(s) that had proved treatment resistant and intractable and were causing severe levels of stress to caregivers. Psychosocial and general medical aspects of treatment were thoroughly addressed.

Levomepromazine can prolong the QT on the ECG.

None of the cases described showed signs or symptoms of postural hypotension which is listed as a common side effect.

None of the young persons showed any signs of over sedation in spite of the remarkable calming effect.

Caregivers were instructed to watch out for any sign of tardive dyskinesia. Immediately stopping the levomepromazine led to rapid resolution of what were probably early signs of tardive dyskinesia in two cases.

CONCLUSION

The cautious prescribing of levomepromazine where adverse behaviours are intractable, extreme, and treatment resistant, can lead to remarkably positive outcomes.

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