Tidsskriftet Tidsskrift for Den norske legeforening

Switch from methadone to buprenorphine with microinduction in outpatient setting

SHORT CASE REPORT

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Background

Switching from methadone to buprenorphine in patients receiving opioid maintenance therapy often requires inpatient care with a gradual tapering of methadone and an opioid-free day with challenging withdrawal symptoms. This case report describes and discusses a gentle outpatient approach without the opioid-free day.

Case presentation

A patient with a 15-year history of opioid maintenance therapy reduced his methadone dose from 80 mg to 50 mg due to concurrent use of other sedative substances and a significant risk of overdose. A week-long switch to buprenorphine 16 mg subcutaneous depot formulation was then undertaken using a microinduction approach in the outpatient setting.

Interpretation

In line with earlier reports on microinduction, the switch from methadone to buprenorphine was carried out with no opioid withdrawal symptoms or complications. Microinduction offers a smooth and more patient-friendly approach to switching from full opioid agonists to partial agonists. Randomised controlled trials are, however, needed for a systematic evaluation of this method.

Switching from methadone to buprenorphine is most common in inpatient settings, and initially involves a gradual tapering of methadone followed by an opioid-free day, which can be challenging due to withdrawal symptoms. We describe a new and gentler method that can also be done on an outpatient basis.

The patient was a man in his 50s who had been receiving opioid maintenance therapy (OMT) for the past 15 years. He underwent opioid substitution treatment (OST), with 80 mg methadone oral solution daily for the first few years. However, the dose was reduced to 50 mg a year before the latest

situation due to concurrent use of illegal opioids and benzodiazepines, which resulted in a high overdose risk and several hospital admissions due to combination overdoses. Daily supervised medication dispensing, weekly psychoeducation sessions and regular contact with the primary care mental health team were all tried, but the patient overdosed again several times. Continuing treatment with methadone was no longer advisable.

The patient and OMT doctor agreed that switching to buprenorphine was the next step, as this drug is associated with a lower overdose risk than methadone (1). Switching from methadone to buprenorphine is usually done in inpatient settings with a tapering of methadone followed by an opioid-free day (Table 1) (1). The patient did not want to be hospitalised and feared withdrawal symptoms. Outpatient alternatives such as microinduction of buprenorphine were discussed (2). The patient was initially sceptical of the method due to the limited experience with this in Norway, but nevertheless wanted to try.

Table 1

Standard switch from methadone to buprenorphine in an inpatient setting, see national clinical guidelines (1).

Day	Methadone (mg)	Buprenorphine (mg)	Observation time (min)
1	50 per os	-	5
2	40 per os	-	5
3	30 per os	-	5
4	Zero	-	-
5	-	2 + 2 + 4 sublingually	30
6	-	8 + 4 sublingually	30
7	-	16 sublingually	30

After consultation with a doctor, microinduction was initiated, which involved a stable dose of methadone (50 mg) and gradual introduction of buprenorphine (Table 2). The patient wanted to use buprenorphine in the form of a subcutaneous depot injection (Buvidal), which was introduced on day 7, and methadone was discontinued on day 8. His vital parameters were frequently and systematically monitored along with signs of potential withdrawal symptoms (3). The switch proceeded without withdrawal symptoms or complications.

Table 2

Switch from methadone to buprenorphine with microinduction in an outpatient setting

Day	Methadone (mg)	Buprenorphine (mg)	Observation time (min)
1	50 per os	0.4 × 1 sublingually	30

Day	Methadone (mg)	Buprenorphine (mg)	Observation time (min)
2	50 per os	0.4 × 2 sublingually[1]	30
3	50 per os	0.8 × 2 sublingually[1]	30
4	50 per os	2 × 1 sublingually[1]	30
5	50 per os	2 × 1[2] sublingually[1]	30
6	50 per os	2 × 1[2] sublingually[1]	30
7	50 per os	8 in subcutaneous depot injections	30
8	-	-	-
9	-	-	-
10	-	16 in subcutaneous depot injections	30

[1]Temgesic sublingual tablets

[2]We chose to use the same dose on three consecutive days as a gentler approach. If the patient had preferred an increase with buprenorphine tablets, 3 and 4 mg could have been administered on days 5 and 6 respectively.

The patient initially received OST in the form of 16 mg of buprenorphine in a weekly subcutaneous depot injection. This dose was subsequently increased, and six months after the switch, the patient was using 24 mg of buprenorphine weekly, attending regular psychoeducation sessions at the OMT clinic and had not had any overdoses.

Discussion

In Norway, approximately 8200 patients are receiving OAT. The proportion using methadone has decreased over time and was 30 % in 2023 (4). Buprenorphine by subcutaneous depot injection (weekly or monthly) was introduced in 2019 and was used by 19 % of OMT patients in 2023 (4). It is important to have effective and gentle methods when switching substitution drugs.

Buprenorphine is a partial opioid agonist with a higher affinity for the μ-opioid receptor than methadone, and concurrent use with another opioid can trigger acute withdrawal symptoms (5, 6). That is why there is traditionally an opioid-free day between the last dose of methadone and the first dose of buprenorphine. Microinduction involves simultaneous use of methadone and a very gradual introduction of buprenorphine, which results in a low risk of acute withdrawal symptoms.

Microinduction was first described in 2016 (2). Since then, several case reports and review articles have been published (7–10), but to date, no randomised controlled trials or data from Norway have been published. The patient in our case report used a relatively low dose of methadone (50 mg), but uncomplicated withdrawals have previously been reported even with high doses of various full opioid agonists (10). The patient had low comorbidity and was highly motivated, which probably contributed to his uncomplicated withdrawal.

The case report confirmed that a gentle switch is possible from a full opioid agonist to a partial opioid agonist in an outpatient setting and without an opioid-free day. Microinduction can potentially reduce the risk of unwanted treatment interruptions, increase the patient's compliance and sense of coping, and free up beds, but the method should still be used sparingly. Randomised controlled trials are needed to systematically evaluate microinduction compared to conventional methods.

The patient has consented to publication of the article.

The article has been peer-reviewed.

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Publisert: 9 September 2024. Tidsskr Nor Legeforen. DOI: 10.4045/tidsskr.24.0073
Received 6.2.2024, first revision submitted 5.5.2024, accepted 5.6.2024.