



# Narcotic Bowel Syndrome, an Under-recognized Cause of Chronic Abdominal Pain in Adults

## Introduction

It is estimated that about 20.0% of the population suffers from chronic pain, using different drugs such as opioids for its management.<sup>1</sup> Opioids' main effects are anesthetic and hypnotic, with some adverse effects such as sedation, delirium, and digestive problems (Fig. 1).<sup>2,3</sup> Although only 0.3% of gastroenterologists prescribe opioids, this increases to 13.0% in irritable bowel syndrome, 30.0% in Crohn's disease, and 70.0% in patients hospitalized for abdominal pain, and it is estimated that 10.0% of patients who use opioids for pain will abuse them.<sup>2,4</sup> Narcotic bowel syndrome (NBS) is characterized according to Rome IV,<sup>5</sup> but it is mostly unknown by general gastroenterologists. Opioid tolerance can be managed by progressive dose increase, however this will cause hyperalgesia in patients with NBS.<sup>3</sup> We describe 3 cases seen last year to exemplify this syndrome and its management.

## Case Report

The Following 3 subjects were admitted to our institution for study. Their information and treatment is described. A 49-year-old male user of tramadol due to mechanical back pain and 6 years of diffuse chronic abdominal pain, without relation to defecation or food intake. With no significant endoscopic findings, a normal computerized tomography scan and laboratory tests (hematological, biochemical, celiac serology, metabolic, and immunological). He consulted 4 times in 1 year in different emergency rooms (ERs) with no response to NSAIDs or antispasmodics, requiring fentanyl in increasing doses. In his last consult at ER, he was admitted after receiving fentanyl 300 µg with partial response. He was examined again with no relevant findings. Pain was managed with opioids

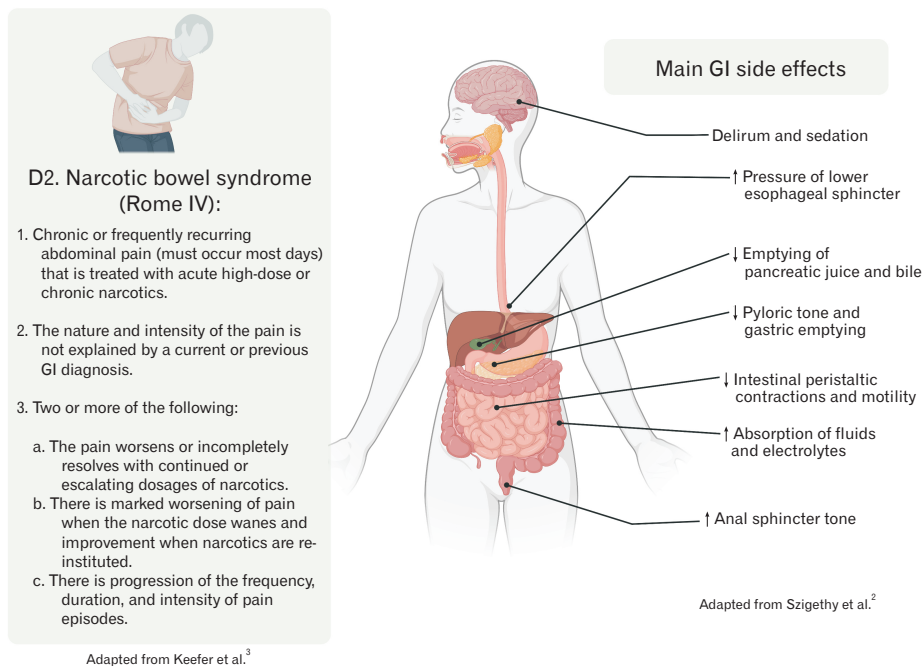
but required more frequent and increasing dosages until he was receiving 500 µg intravenous (IV) daily. After evaluation by our neurogastroenterology team, he was started on lorazepam 2 mg per oral (PO), amitriptyline 12.5 mg PO, and methadone in decreasing dose by 5 mg every 2 days from 30 mg until discontinued 2 weeks later at discharge. After 3 months he reported no abdominal pain at outpatient follow-up.

A 42-year-old woman with fibromyalgia, with a history of 4 years of episodic epigastric cramping abdominal pain, without association with food intake, defecation or nausea. She was without relevant findings on images or laboratory tests or endoscopies. She was seen at different ERs where she received prescriptions for opioid agonists (mostly tramadol and fentanyl) in increasing doses. She experienced partial resolution of pain, requiring tramadol 200 mg PO daily at home. Pain was managed with acetaminophen 4 g daily, metamizole 4 g daily, and pargerverine and tramadol 200 mg with partial response, requiring higher and more frequent doses of opioids. After evaluation by neurogastroenterology and addiction team, she was started on methadone 30 mg daily decreasing by 5 mg every 2 days until withdrawal, lorazepam 4 mg IV daily and amitriptyline 12.5 mg PO. She was transferred to the mental health department and was later discharged without opioids. At 2 months follow-up she reported no abdominal pain.

A 27-year-old woman with rheumatoid arthritis and ulcerative colitis under remission (normal biomarkers, fecal calprotectin, endoscopic, and histological findings). She was consulted with intermittent cramping abdominal pain for the last 6 months, using high doses of tramadol for arthralgia and abdominal pain. Upon admission for study and management she, like the 2 previous cases, required high doses of fentanyl. She received up to 200 µg IV with transient resolution of abdominal pain, recurring after less than 12 hours and requiring higher doses each time. After evaluation by a

## Gastrointestinal side effects of opioids

Opioid misuse is a global epidemic, with increases in opioid-related morbidity and mortality around the world

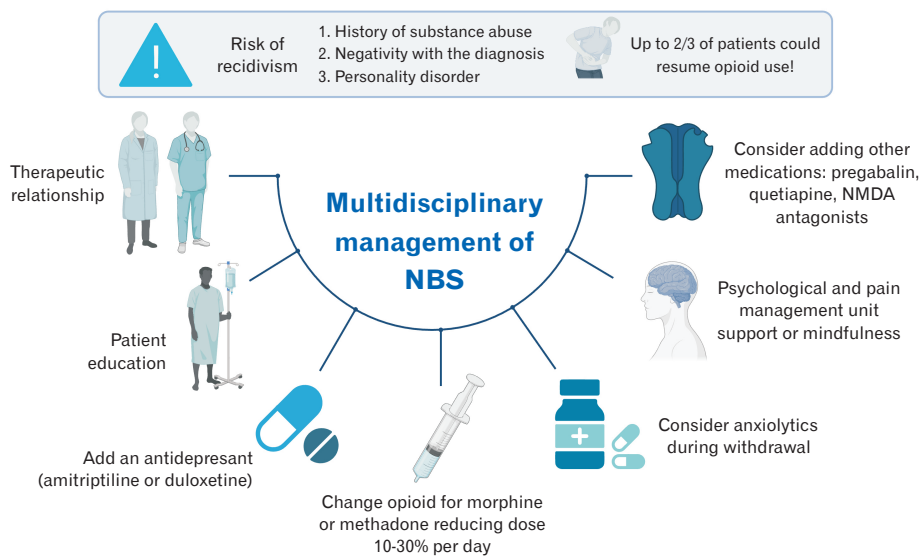


### D2. Narcotic bowel syndrome (Rome IV):

1. Chronic or frequently recurring abdominal pain (must occur most days) that is treated with acute high-dose or chronic narcotics.
2. The nature and intensity of the pain is not explained by a current or previous GI diagnosis.
3. Two or more of the following:
  - a. The pain worsens or incompletely resolves with continued or escalating dosages of narcotics.
  - b. There is marked worsening of pain when the narcotic dose wanes and improvement when narcotics are re-instituted.
  - c. There is progression of the frequency, duration, and intensity of pain episodes.

Adapted from Keefer et al.<sup>3</sup>

**Figure 1.** Gastrointestinal side effects of opioids and narcotic bowel syndrome. GI, gastrointestinal. Created with BioRender.com with permission.



**Figure 2.** Multidisciplinary management of narcotic bowel syndrome (NBS). NMDA, N-Methyl-D-aspartic acid. Created with BioRender.com with permission.

multidisciplinary team (neurogastroenterology and chronic pain clinic) she was prescribed amitriptyline 12.5 mg, pregabalin 75 mg, meveberine 200 mg, and decreasing fentanyl by 50 µg each dose until discontinuation. She was discharged without abdominal pain. At follow-up in neurogastroenterology clinic 1 month later, she re-

ported mild pain, without requiring tramadol. Mindfulness therapy was indicated with a good response after 4 sessions.

Diagnosis of NBS was made in all 3 cases with a good response to opioid withdrawal and use of neuromodulators. They remained asymptomatic in the outpatient follow-up.

## Discussion

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The increasing use of opioids has resulted in different consequences, including NBS. One group reported a 2.8% prevalence of NBS among 577 opioid users.<sup>6</sup> There is no consensus regarding the management of NBS and its differential diagnosis can be very difficult. One of the most important keys for treatment includes education and validation of the patient's symptoms. The detoxification regimen followed with the 3 subject patients involved a progressive decrease in opioid doses, in our experience with the use of methadone. The use of pain modulators such as tricyclic antidepressants or pregabalin (considering comorbidities as lumbago or fibromyalgia), management of opioid withdrawal with benzodiazepines and provision of psychological help were effective in our small cohort (Fig. 2). The main risk factors for recidivism are a history of substance abuse, some personality disorders and refusal to adhere to a detoxification program, with two-thirds of patients relapsing, making the support of the mental health team essential.<sup>7,8</sup>

Increased awareness of NBS, especially among general gastroenterologists, is the key to success in this difficult-to-recognize disorder, which is progressively exacerbated by treatment with prescription of progressively higher doses of opioids. Although detoxification programs could be effective, further investigation is needed to determine the best strategy that will improve our patients' outcome.

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