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CASE REPORT



## Vortioxetine treatment for major depressive disorder with the co-morbidity of irritable bowel syndrome with diarrhoea: a case report

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### ABSTRACT

Irritable bowel syndrome (IBS) is a complex condition that involves problems with bowel movements and belly pain, bloating, and gas. It is not life threatening, but can be a long-lasting problem that changes life quality. Several studies have shown that up to 70–90% of patients with IBS who seek treatment have psychiatric co-morbidity, most notably mood and anxiety disorders. There are different approaches in the medication for IBS. Antidepressants such as tricyclic antidepressants and selective serotonin reuptake inhibitors are shown to be useful in the treatment. Vortioxetine may become a possible new agent in the treatment of patients with major depressive disorder and IBS with diarrhoea co-morbidity.

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Vortioxetine; depression;  
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### Introduction

Irritable bowel syndrome (IBS) is a common functional gastrointestinal disorder that exhibits altered bowel habits and abdominal pain. IBS is derived from biological, psychological, and social factors and has no universally effective medical treatment [1]. Psychiatric disorders such as major depression, anxiety, and somatoform disorders affect a broad range of IBS patients; however, psychiatric disorders and IBS are distinct disorders and not manifestations of a common somatization disorder [2]. In addition, gastrointestinal discomfort with emotional distress emerges difficulties in the daily functioning of the patients with IBS [3,4]. The different types of tricyclic antidepressants – e.g. amitriptyline, trimipramine, and desipramine – and selective serotonin reuptake inhibitors (SSRI) – e.g. citalopram, fluoxetine, paroxetine, and sertraline – are used for improving the symptoms of IBS, but there was a lack of strong evidence to confirm the effectiveness of SSRIs for the treatment of IBS [5].

Vortioxetine is indicated for the treatment of patients with major depressive disorder (MDD); generally, the inhibition of serotonin reuptake is thought to be its primary mechanism of antidepressant action. Vortioxetine has a variety of effects on serotonin receptors: 5-HT<sub>3</sub>, 5-HT<sub>7</sub> and 5-HT<sub>1D</sub> receptor antagonist, 5-HT<sub>1B</sub> receptor partial agonist, 5-HT<sub>1A</sub> receptor agonist, and serotonin (5-HT) transporter (SERT) inhibitor [6]. This combination of actions at serotonin receptors is unique to vortioxetine, but the contribution of any of these actions to the antidepressant effect of the drug has not been established and the clinical relevance is unknown [7].

Here, we present the improving effect of vortioxetine treatment on a patient diagnosed with MDD and the presence of co-morbid IBS.

### Case

A 37-year-old woman had a history of recurrent, crampy pain in the lower abdominal region, bloating with abdominal distension and an increasing frequency of stool. She reported having similar but milder symptoms since childhood. She spent a long time in the bathroom because of diarrhoea and felt discomfort. She was diagnosed with IBS with diarrhoea (IBS-D) by a gastroenterologist according to Rome IV criteria [8] 6 months ago after excluding all possible organic pathologies. She was undergoing antidiarrhoeal (loperamide), antispasmodic (hyoscine butylbromide), and anticholinergic (dicyclomine hydrochloride) treatment at the outpatient clinic of gastroenterology for 3 months. After diagnosis, she regulated her diet by taking fibre supplements and eliminating high-gas foods. However, IBS symptoms did not answer her preventions and thus she cancelled her drug medication and only continued with dietary regimen. During the last 3 months, she had depressed mood, fatigue, feelings of worthlessness, diminished ability to concentrate, loss of interest in all activities, and insomnia nearly every day. She was diagnosed with MDD, and it was noticed that her IBS-D symptoms were still continuing. The Hamilton Depression Rating Scale (HAM-D) [9] score was 21 and signified that she had severe depression. In addition, she had a score of 250 in Irritable Bowel Syndrome Severity Scoring System (IBS-SSS) [10] that pointed out moderate severity.

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Paroxetine 20 mg/day was started immediately but after 5 days from initiation, it had to be stopped because of worsened constipation. Her treatment was switched to sertraline 100 mg/day with cross-tapering. After 3 weeks of medication, she was suffering from the sexual dysfunctions and weight gain. Accordingly, we decided to shift to the vortioxetine 10 mg/day because of the observed side effects of sertraline. We increased the dosage to 20 mg/day gradually for depressive symptoms. Her depressive symptoms improved after 4 weeks from the beginning of the vortioxetine treatment, and the HAM-D score was decreased to 11. Simultaneously, the crampy pain and abdominal distension disappeared and frequency of stool diminished. The IBS-SSS score was under 75 at the end of the 4 weeks, which meant the disease was in remission. We are currently following-up the patient for 7 months with a 20 mg daily dosage of vortioxetine only, and there is no sign of IBS-D and depression.

## Discussion

The overall prevalence of IBS was 11.5%, and it was reported to have a higher prevalence in women [11]. Although there is no evidence for a common genetic component in the co-occurrence of MDD and IBS [12], depression has been reported to independently increase in patients with IBS [13]. Furthermore, recent studies have shown that the prevalence of IBS was 29% in major depression [14]. There are different types of medication used in the treatment of IBS. At the beginning, our patient suffered from IBS-D and took loperamide (elimination half-life 9.1/14.4 hours) [15], hyoscine butylbromide (elimination half-life 1/5 hours) [15], dicyclomine hydrochloride (elimination half-life 1.8/9 hours) [15] for preventing IBS-D symptoms. She discontinued this therapy because of not providing any benefit for her illness. We decided to administer antidepressant therapy because of MDD and concurrent IBS-D when she was admitted to our psychiatry clinic. We maintained the treatment with vortioxetine, and symptoms of MDD and IBS-D have improved at last. Our case did not receive any other psychotropic, antispasmodic, anticholinergic, or antidiarrheal drugs during the vortioxetine treatment. We concluded that the vortioxetine treatment might improve IBS-D symptoms alone because other medications were interrupted before psychiatric admission. Moreover, we excluded the prolonged constipation effect of the prior medication owing to their shorter elimination periods. The 5-hydroxytryptamine (5-HT<sub>3</sub>) receptor antagonists were found to be effective for treating IBS-D in adults [16]. Despite the fact that vortioxetine is only used in MDD, its healing effect on IBS-D symptoms may depend on its additional antagonism of 5-HT<sub>3</sub> receptors that partly counteract gastrointestinal adverse effects. The clinically effective dose range of

vortioxetine is 5–20 mg/day; SERT and 5-HT<sub>3</sub> receptors are primarily occupied at 5 mg and all of the other target receptors are occupied at 20 mg [17]. In this case, we raised the dosage to 20 mg/day for avoiding depression. The vortioxetine may have a safer profile compared with other traditional antidepressants, with a low incidence of weight gain and sexual dysfunction [17]. These useful features take some advantages in the treatment of MDD with concurrent IBS-D. This is the first case report in the literature that showed the beneficial effects of vortioxetine in a depressive patient with IBS-D. There is a need for additional studies of currently available and new medications in defining their place in therapy; thus, the clinicians might expand their therapeutic options for the treatment of IBS.

## Disclosure statement

No potential conflict of interest was reported by the authors.

## References

- [1] Oudenhove L V, Levy RL, Crowell MD, et al. Biopsychosocial aspects of functional gastrointestinal disorders: how central and environmental processes contribute to the development and expression of functional gastrointestinal disorders. *Gastroenterology*. 2016;150(6):1355–1367.
- [2] Whitehead WE, Palsson O, Jones KR. Systematic review of the comorbidity of irritable bowel syndrome with other disorders: what are the causes and implications? *Gastroenterology*. 2002;122(4):1140–1156.
- [3] Hungin AP, Whorwell PJ, Tack J, et al. The prevalence, patterns and impact of irritable bowel syndrome: an international survey of 40,000 subjects. *Aliment Pharmacol Ther*. 2003;17(5):643–650.
- [4] Bass C. The role of emotion in determining pain. *Dig Dis Sci*. 2009;27(1):16–23.
- [5] Xie C, Tang Y, Wang Y, et al. Efficacy and safety of antidepressants for the treatment of irritable bowel syndrome: a meta-analysis. *PLoS One*. 2015;10(8):e0127815.
- [6] Stahl SM. Stahl's essential psychopharmacology: neuroscientific basis and practical application. 4th ed. New York (NY): Cambridge University Press; 2013.
- [7] Hussar DA, Lye A. Vortioxetine hydrobromide, crofelemer, and teduglutide. *J Am Pharm Assoc*. 2014;54(1):91–94.
- [8] Whitehead WE, Palsson OS, Simrén M. Irritable bowel syndrome: what do the new Rome IV diagnostic guidelines mean for patient management? *Expert Rev Gastroenterol Hepatol*. 2017;11(4):281–283.
- [9] Hamilton M. A rating scale for depression. *J Neurol Neurosurg Psychiatry*. 1960;23(1):56–62.
- [10] Francis CY, Morris J, Whorwell PJ. The irritable bowel severity scoring system: a simple method of monitoring irritable bowel syndrome and its progress. *Aliment Pharmacol Ther*. 1997;11(2):395–402.
- [11] Mykletun A, Jacka F, Williams L, et al. Prevalence of mood and anxiety disorder in self reported irritable bowel syndrome (IBS). An epidemiological population based study of women. *BMC Gastroenterol*. 2010;10(1):88.

- [12] Wojczynski MK, North KE, Pedersen NL, et al. Irritable bowel syndrome: a co-twin control analysis. *Am J Gastroenterol.* [2007](#);102(10):2220–2229.
- [13] Koloski NA, Talley NJ, Boyce PM. Predictors of health care seeking for irritable bowel syndrome and nonulcer dyspepsia: a critical review of the literature on symptom and psychosocial factors. *Am J Gastroenterol.* [2001](#);96(5):1340–1349.
- [14] Garakani A, Win T, Virk S, et al. Comorbidity of irritable bowel syndrome in psychiatric patients: a review. *Am J Ther.* [2003](#);10(1):61–67.
- [15] Law V, Knox C, Djoumbou Y, et al. Drugbank 4.0: shedding new light on drug metabolism. *Nucleic Acids Res.* [2014](#);42(1):1091–1097.
- [16] Zheng Y, Yu T, Tang Y, et al. Efficacy and safety of 5-hydroxytryptamine 3 receptor antagonists in irritable bowel syndrome: a systematic review and meta-analysis of randomized controlled trials. *PloS One.* [2017](#);12(3):e0172846.
- [17] Sanchez C, Asin KE, Artigas F. Vortioxetine, a novel antidepressant with multimodal activity: review of preclinical and clinical data. *Pharmacol Ther.* [2015](#);145:43–57.