Dear Editor,

Melatonin in dosages of less than 2 mg can be bought over the counter in Spain. This high degree of accessibility emphasizes the need to study its safety profile.

Case report

A 49 year old woman presented with diarrhoea lasting for 3 weeks with 3-4 liquid bowel movements per day, with abundant bowel sounds. She had no pathologic findings in her stools, abdominal pain, rectal tenesmus or fever. There was some weight loss (2 kg) but no lack of appetite or nocturnal episodes. Her primary care physician had prescribed loperamide 1 mg every 8 hours to control the diarrhoea. The patient indicated that the onset of symptoms began after taking an herbal product for insomnia, and that she was not using other drugs. Tests, which were carried out, included blood count, liver and renal function profile, thyroid stimulating hormone, vitamin B₁₂, folate, erythrocyte sedimentation rate, C-reactive protein, immunoglobulin A, anti-endomysial and tissue transglutaminase IgA, stool culture, parasites in stool, and lactose intolerance. All test results were normal and therefore the focus was placed on investigating the composition of the product used for insomnia, which was melatonin 5 mg, taken daily. The onset of diarrhoea seems to have coincided with the use of melatonin and therefore the patient was advised to stop taking it. Symptoms disappeared completely. When the patient herself decided to restart taking the same dose of melatonin the clinical symptoms reappeared. Subsequently she reduced her melatonin intake to 1.8 mg per day, which controlled the insomnia with no side effects.

Discussion

Melatonin is a hormone produced by the pineal gland and the enterochromaffin cells. (1,2). Its role in sleep regulation and the circadian rhythm is known (1,3). It is mainly prescribed for treating jet lag and sleep disorders. Its potential use for treating gastro-oesophageal reflux disease, irritable bowel syndrome and inflammatory bowel disease is currently being studied (1-5). Since it was considered to be a prescribed drug, the marketing of melatonin was not authorized in Spain until 2009 when the European Union Court of Justice established that products with less than 2 mg dose could be sold without a prescription. The most common documented side effects include headache, dizziness, nausea and drowsiness (6). In previous cases patients reported nausea, vomiting, dysgeusia, abdominal pain, abnormal stools and diarrhoea. However, there are no reported cases of diarrhoea specifically caused by melatonin and neither is it mentioned in extensive studies on sleep disorders (6). In this case, melatonin is associated with the probable origin of diarrhoea. There is a temporal connection between the onset of treatment, whilst symptoms disappeared when it was suspended and reappeared when restarted, thereby ruling out other possible causes. Although the mechanism of diarrhoea is unknown, our case suggests a dose dependent effect. Conversely, a study shows increased colonic transit time in healthy volunteers taking melatonin at 3 mg doses (7).

This case reveals that melatonin is a previously unpublished probable cause of diarrhoea.

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References