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Cannabinoid hyperemesis syndrome: the conundrum is here to stay

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The most rapid growth in cannabis abuse since the 1960s, more documented in developed countries, has become more closely linked to youth culture and the age of initiation is usually lower than for other drugs. Approximately 50% of people in the USA have their first exposure of marijuana by the age of 20 years.¹ It has been shown to ease chronic pain, improve sleep and relieve nausea associated with chemotherapy. However, there are also reports it can also impair cognitive development, result in dependence, exacerbate psychiatric morbidities, cause airway injury and affect fetal development when taken during pregnancy. Thus, the message seems to be ‘no gain without pain’.

Cannabinoid hyperemesis syndrome (CHS) was first reported in 2004, described as a pattern of cyclic vomiting, and compulsive hot water bathing in chronic cannabis users. Cessation of cannabis use led to resolution of vomiting episodes in most patients.² The prevalence of CHS has been difficult to ascertain and reports vary from CHS being very common (35%) and affecting millions of Americans to rare (0.003%) in a recent population-based survey.^{3,4} Both vomiting and abdominal pain can be relieved by hot showers, perhaps due to the accompanying relaxation and distraction. A recent epidemiologic study demonstrated an 8% yearly increase in hospital discharges for persistent vomiting after cannabis legalization compared with the prelegalization era.⁵ However, the question of recognition bias could hamper results of this observation, as mentioned by the authors.

It seems that the Rome IV criteria for CHS including presentation after prolonged, excessive cannabis use with relief of vomiting episodes by sustained cessation of cannabis are not sufficient currently to recognize and diagnose appropriately patients with CHS. A recent study by Venkatesan *et al* found 21% of patients with cyclic vomiting syndrome (CVS) to be regular users, but the majority did not meet the Rome IV criteria for CHS and suggested that based on current literature a minimum cannabis use of >4 times/week for at least a year preceding the onset of cyclic vomiting is necessary for the development of CHS. They concluded that longitudinal studies are needed to determine the relationships among cannabis use, hyperemesis, and

mood symptoms.⁶ In addition, a recent study performed at the greater New York area inpatient addiction program examined the odds of non-medical or illicit opioid use changed on days when cannabis was used and found that on days that participants used cannabis, the odds of non-medical opioid use nearly doubled.⁷

In the current issue of the *Journal of Investigative Medicine*, Gajendran *et al*⁸ present 2 case studies and an in-depth review of the published literature on CHS. The authors share their experience from one of the leading neurogastroenterology centers in the nation. They report that prior to CHS diagnosis, patients had symptoms between 4 and 10 years, and 11% of patients more than 10 years. When patients with CHS were compared with the patients with classic CVS, there was no significant difference in the baseline demographics and disease characteristics apart from the chronic daily use of marijuana.⁸ The authors point out that abdominal pain, which accompanies the onset of vomiting and is typically located in the epigastrium and radiating diffusely, is a key feature of CHS, and not emphasized in the Rome IV criteria. The authors review current and future treatment options and conclude that the success of long-term management depends on physician commitment, availability, and coordinating organized follow-up visits. A strong working relationship, trust, and rapport between the patient and the physician are of utmost importance.

In conclusion, cannabis is ‘here to stay’ in western society. The current Rome IV criteria for CHS diagnosis are limited and need to be revisited and updated. Future research in CHS focused on pathophysiology, clinical presentation and natural history is still in great need.

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