The Contribution of Psychiatric Comorbidity and Cannabis Usage to Cyclic Vomiting Syndrome Severity

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BACKGROUND

Cyclic vomiting syndrome (CVS) is characterized by sporadic, repeated episodes of intense nausea vomiting. Psychiatric comorbidities (up to 84% anxiety and 78% depression) and cannabis use (up to 53%) are common. However, the relationship between cannabis usage and psychological symptom severity using validated surveys is unknown.

AIMS

Among adults with CVS, identify:

1. The frequency of comorbid psychiatric disorders and current cannabis use.
2. The severity of anxiety and depression symptoms and relationship to cannabis use.

METHODS

- Diagnosed by a gastroenterologist with CVS at a tertiary gastrointestinal (GI) clinic and sequentially enrolled in an observational registry.
- Self-report of psychiatric disease diagnosis and current cannabis use captured.
- Following validated measures included:
  - Anxiety/depression (Hospital Anxiety and Depression Scale; HADS).
  - General quality of life (Short Form-36).
  - Upper GI symptom severity (Patient Assessment of Gastrointestinal Disorders-Symptoms Severity Index; PAGI-SYM).
  - Related quality of life (Patient Assessment of Upper Gastrointestinal Disorders-Quality of Life; PAGI-QOL).

Table 1: Demographics and clinical characteristics of adults with cyclic vomiting syndrome.

	Overall Study Cohort (N=48)	Current Cannabis Use (n=28)	No Current Cannabis Use (n=20)
Age, M(SD)	34 (12.6)	33 (11.1)	36 (14.6)
Sex-Female, n (%)	29 (61%)	16 (57%)	13 (65%)
Race, n (%)			
American Indian or Alaskan Native	0 (0%)	0 (0%)	0 (0%)
Asian	0 (0%)	0 (0%)	0 (0%)
Black or African American	1 (2%)	1 (4%)	0 (0%)
White	48 (100%)	28 (100%)	20 (100%)
Other	0 (0%)	0 (0%)	0 (0%)
Ethnicity, n (%)			
Hispanic/Latino	1 (2%)	1 (4%)	0 (0%)
Not Hispanic/Latino	46 (96%)	26 (93%)	20 (100%)
Unknown	1 (2%)	1 (4%)	0 (100%)

Note: Subjects could select more than one race category.

Depression and poor mental health-related quality of life associated with cannabis use, suggesting cannabis may be a marker of comorbid psychiatric and mental health distress.

Table 2: Psychiatric comorbidities and validated measurements among adults with CVS with current or no current cannabis use.

	Overall Study Cohort (N=48)	Current Cannabis Use (n=28)	No Current Cannabis Use (n=20)	P-value
Comorbid Psychiatric Disorders, n (%)				
Any Psychiatric Disorder	32 (67%)	20 (71%)	14 (70%)	1.00
Anxiety Disorder	32 (67%)	18 (64%)	14 (70%)	0.92
Depression	22 (46%)	15 (54%)	7 (35%)	0.33
Bipolar Disorder	3 (7%)	1 (4%)	2 (10%)	0.76
Substance Abuse	2 (5%)	1 (4%)	1 (5%)	1.00
Post-Traumatic Stress Disorder (PTSD)	5 (90%)	5 (18%)	0 (0%)	0.13
Patient Assessment of Gastrointestinal Disorders-Symptoms Severity Index (PAGI-SYM), M(SD)				
Total	1.3 (0.91)	1.5 (0.93)	1.2 (0.88)	0.30
Heartburn/Regurgitation	1.4 (1.1)	1.5 (1.2)	1.1 (0.90)	0.32
Fullness/Satiety	**1.6 (1.3)**	**1.9 (1.3)**	**1.2 (1.2)**	**0.04***
Nausea/Vomiting	1.5 (0.95)	1.5 (0.90)	1.6 (1.1)	1.00
Bloating/Distension	1.3 (1.2)	1.4 (1.2)	1.2 (1.1)	0.40
Upper Abdominal Pain	1.1 (1.0)	1.2 (1.1)	0.88 (0.97)	0.40
Lower Abdominal Pain	0.78 (0.99)	0.89 (1.1)	0.63 (0.78)	0.48
Patient Assessment of Upper Gastrointestinal Disorders-Quality of Life (PAGI-QOL), M(SD)				
Total	1.7 (1.2)	2.0 (1.3)	1.3 (0.8)	0.07
Daily Activities	1.9 (1.3)	2.2 (1.4)	1.6 (1.2)	0.12
Clothing	1.1 (1.5)	1.4 (1.7)	0.75 (1.3)	0.19
Diet and Food Habits	2.1 (1.6)	2.3 (1.5)	1.8 (1.6)	0.21
Relationship	1.1 (1.5)	1.5 (1.7)	0.62 (0.7)	0.16
Psychological Well-Being/Distress	**1.9 (1.5)**	**2.4 (1.6)**	**1.3 (1.0)**	**0.03***
Short Form-36 (SF-36), M(SD)				
Physical Component Summary (PCS)	44 (11)	45 (10)	42 (13)	0.93
Mental Component Summary (MCS)	**40 (15)**	**36 (14)**	**46 (14)**	**0.01***
Hospital Anxiety and Depression Score (HADS), M(SD)				
Anxiety	11 (2.2)	11 (2.5)	11 (1.8)	0.36
Depression	**6.3 (3.1)**	**7.3 (3.3)**	**5.0 (2.0)**	**0.02***

Notes: Continuous variables analyzed with Kruskal Wallis H-Tests for non-normally distributed data. Categorical variables analyzed with Pearson's Chi-squared Tests for descriptive purposes. Subjects could select more than one psychiatric disorder. Anxiety disorders included generalized anxiety disorder and panic disorder.
* $p < 0.05$.

RESULTS

- Enrolled CVS patients from a relatively balanced (N=48; ages 19-64 years; 61% female) cohort.
- There was frequent psychiatric comorbidity, with anxiety disorders (n=32; 67%) and depression (n=22; 46%) most common (Table 2).
- Despite high prevalence of anxiety and depression in patients with CVS, psychiatric comorbidities were not statistically different between current cannabis use and none.
- Using age-adjusted logistic regression:
  - Higher HADS-depression scores independently associated with an increased likelihood of current cannabis use (OR=1.4, 95% CI 1.1–1.8, p=0.01).
  - Better SF-36 MCS scores associated with a decreased likelihood of current cannabis use (OR=0.95, 95% CI 0.9-1.0, p=0.02).
  - Current cannabis significantly associated with higher HADS-depression scores (p=0.02) and lower SF-36 Mental Component Summary (MCS) scores (p=0.02).

CONCLUSION

Cannabis was associated with depression and poor mental-health related quality of life rather than worse gastrointestinal symptom severity or related quality of life, suggesting that cannabis use may serve as either a marker or cause for depression and mental health distress in adults with CVS.

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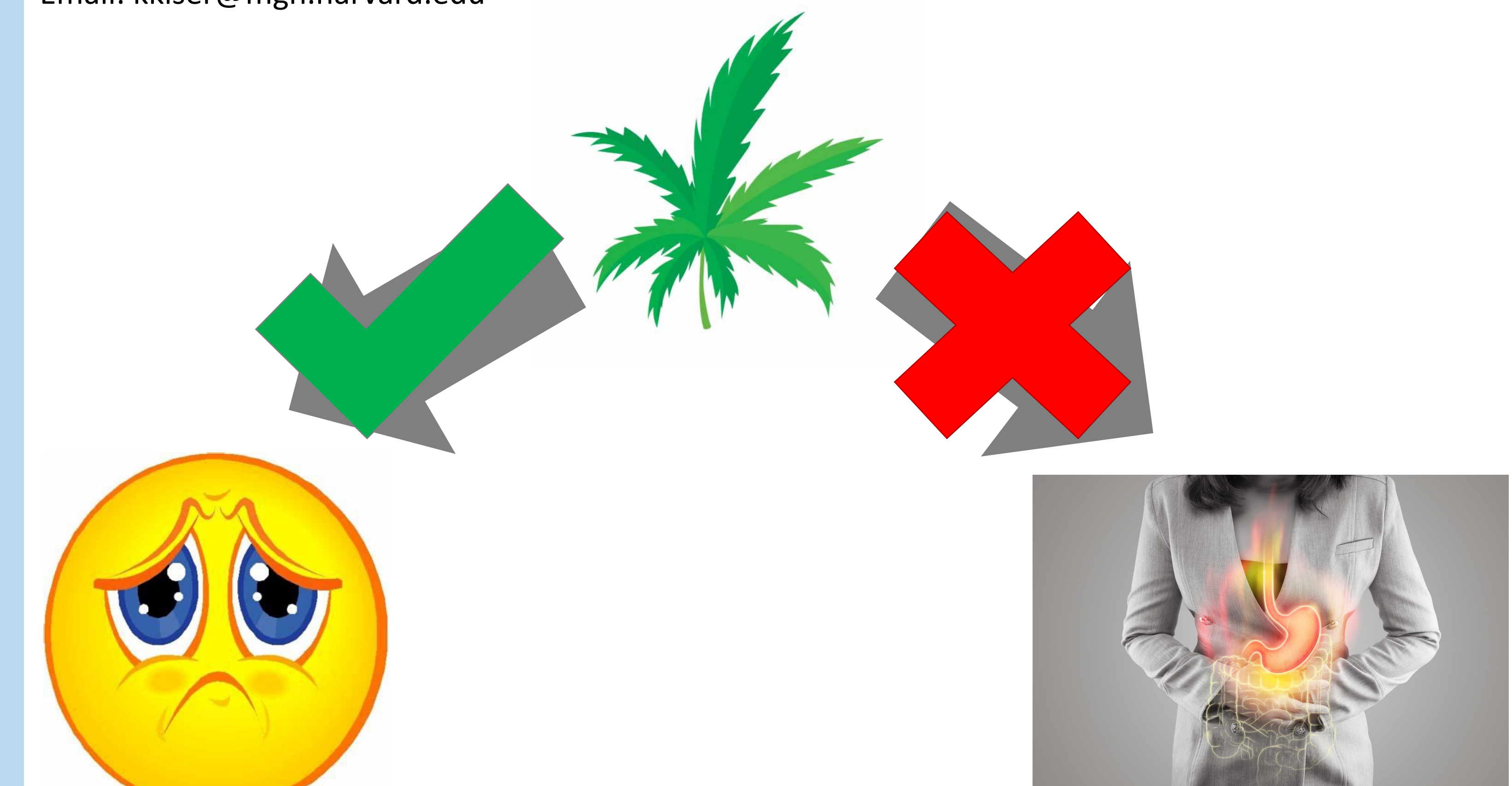
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