Chronic Cannabis Consumption Causing Cardiac Complications: Is Cannabis a Benign Illicit Substance?

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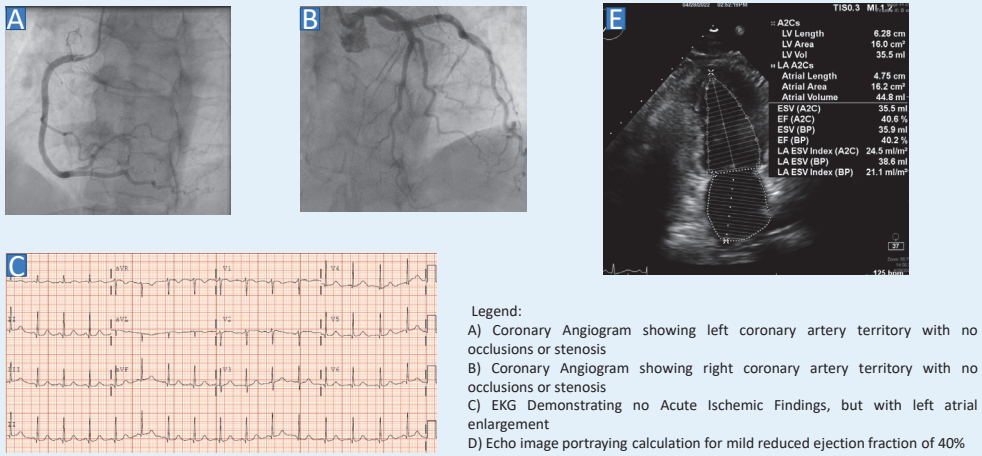
Background

- Cannabinoid Hyperemesis Syndrome (CHS) causes cyclical vomiting after long standing use of cannabis [3]
- Treatment classically consists of hot showers, and has variable response to typical antiemetics [8, 5, 7]
- Recently topical capsaicin cream has been proposed as an effective agent [8, 4]
- There have been documented cases of drug related stress cardiomyopathy with heart failure primarily from methamphetamine abuse [6]. No cases have been reported associating CHS with heart failure or stress induced cardiomyopathy.
- Stress induced cardiomyopathy is most often described as arising from chronic stress states that result in prolonged release of catecholamines and neuropeptides [1].

Imaging



Legend:
A) Coronary Angiogram showing left coronary artery territory with no occlusions or stenosis
B) Coronary Angiogram showing right coronary artery territory with no occlusions or stenosis
C) EKG Demonstrating no Acute Ischemic Findings, but with left atrial enlargement
D) Echo image portraying calculation for mild reduced ejection fraction of 40%

Discussion

- CHS has become more common as cannabis has become more available in recent years [2].
- The mechanism of CHS is thought to be due to chronic overstimulation of endocannabinoid receptor disrupting the body's intrinsic regulation of nausea and vomiting [8, 3].
- CHS may take up to 6 months to completely resolve, and may immediately regress with continued use of cannabis.
- Patient was found to have HFmrEF after experiencing severe refractory CHS. The cause of HFmrEF from CHS is not entirely clear. We believe patient suffered a decrease in ejection fraction due to chronic severe stress such as that found in stress cardiomyopathy.
- With increasing comorbidities related to CHS, early treatment may reduce long term negative outcomes such as cardiac complications.
- Education on CHS and responsible cannabis use is an important take home point.

Case

- A 39 year old female with 5 year history of heavy marijuana use was hospitalized twice for refractory nausea and vomiting that was relieved only with warm showers and promethazine.
- She was discharged after one hospitalization with moderate improvement of symptoms after an extensive workup demonstrated no infection, negative EGD, and no evidence for pancreatitis or bowel obstruction.
- She then was re-admitted 2 weeks later after having return of symptoms following cannabis use. She presented with lactic acidosis of >4mmol/L, troponins >2000 ng/L, negative procalcitonin, and mild leukocytosis. Echocardiogram demonstrated diffuse hypokinesis with ejection fraction of 40%, and a subsequent cardiac catheterization demonstrated patent coronary arteries.
- Patient was diagnosed with cannabinoid hyperemesis syndrome and new onset heart failure with mildly reduced ejection fraction (HFmrEF). She was started on guideline based medical therapy, and discharged home with strict instructions to discontinue cannabis use and manage nausea and vomiting conservatively.

References

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