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Cannabinoid Hyperemesis Syndrome Complicated by Pneumomediastinum: Implications for Pediatric Surgeons

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ABSTRACT

BACKGROUND

Cannabinoid Hyperemesis Syndrome (CHS) is a form of cyclic vomiting syndrome characterized by episodic vomiting occurring every few weeks or months and is associated with prolonged and frequent use of high-dose cannabis. CHS in the pediatric population has been increasingly reported over the last decade and can lead to life-threatening complications such as pneumomediastinum, which warrant careful consideration for surgical intervention.

CASE PRESENTATION

A 17-year-old female with no significant past medical history presented to the emergency department with abdominal pain, nausea, and vomiting for 24 hours. She had four episodes of green-yellow emesis followed by dry heaves. She also complained of chest and back pain, worse with deep inspiration. Upon further history, the patient reported a similar episode of abdominal pain and repetitive vomiting six months prior to the current episode. She smoked cannabis at least once daily and has done so for the past two years. Chest X-ray revealed a subtle abnormal lucency along the anteroposterior window and anterior mediastinum, consistent with a small amount of pneumomediastinum without any other acute intrathoracic abnormalities. Follow-up chest computed tomography with contrast showed multiple foci of air within the anterior and posterior mediastinum tracking up to the thoracic inlet. There was no evidence of contrast extravasation; however, small esophageal perforation could not be excluded. Given uncomplicated pneumomediastinum without frank contrast extravasation, the patient was treated medically with piperacillin-tazobactam, metronidazole, and micafungin for microbial prophylaxis; hydromorphone for pain control; as well as with pantoprazole, ondansetron, and promethazine. Nutrition was provided via total parenteral nutrition. The patient was intensely monitored for signs of occult esophageal perforation, but none were detected. She was advanced to a soft diet on hospital day eight, solid food diet on day nine, at which point antibiotics were discontinued, and the patient was subsequently discharged.

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CONCLUSION

CHS in an increasingly common disorder encountered in the pediatric setting due to rising prevalence of cannabis use. The management of CHS and potentially life-threatening complications such as pneumomediastinum should be given careful consideration. Pneumomediastinum can be a harbinger of more sinister pathology such as esophageal perforation, which may warrant urgent surgical intervention.

KEYWORDS

Hyperemesis; Cannabis; Pneumomediastinum; Pediatric; Management; Surgical consultation