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RESEARCH ARTICLE

PERSISTENT VOMITING WITH ESOPHAGEAL CANDIDIASIS: A CASE REPORT

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Abstract

This case report describes a patient with persistent vomiting, ultimately diagnosed with esophageal candidiasis. The patient, a diabetic female who recently underwent nephrectomy, presented with recurrent vomiting, fever, and diarrhea. Initial management included antiemetics and intravenous fluids, with subsequent investigations revealing elevated inflammatory markers. Persistent symptoms led to gastroenterology consultation and esophagogastroduodenoscopy, confirming esophageal candidiasis. The patient responded well to antifungal therapy and was discharged in stable condition.

Introduction:-

Esophageal candidiasis primarily affects patients with weakened immune systems due to underlying conditions such as chronic metabolic diseases, human immune deficiency (HIV) infection, or the use of immunosuppressive medications. It can also occur because of alterations in the normal bacterial flora of the body, such as those induced by the use of antibiotics. The most prevalent symptom is dysphagia, although additional symptoms such as concurrent oral candidiasis may also be observed(Patil et al., 2015).

The diagnostic criteria for candidal esophagitis include the characteristic endoscopic appearance and biopsy. Symptomatic esophageal candidiasis is uncommon in non-HIV patients, and the use of screening endoscopy is prohibitively expensive and invasive(Takahashi et al., 2015).

This report presents the case of a diabetic patient who underwent nephrectomy and exhibited fever, diarrhea, and frequent vomiting due to Candidal esophagitis.This is the first case report to illustrate the distinctive clinical presentation of Candida esophagitis, diagnosed via endoscopy. The objective is to underscore the necessity of clinical suspicion for esophageal candidiasis in diabetic patients presenting with frequent vomiting and a lack of response to antiemetics following surgery.

Case Presentation

This case report describes a 45-year-old female patient with type 1 diabetes mellitus, presenting with persistent vomiting ultimately diagnosed as esophageal candidiasis. On May 22, 2024, the patient presented to urgent care with frequent vomiting for one day, exceeding five episodes, accompanied by fever and diarrhea. She had a history of a left nephrectomy performed on May 7, 2024, and was previously admitted on May 14, 2024 for pyelonephritis. Despite being on insulin therapy, her condition had deteriorated, necessitating urgent medical attention.

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Upon examination, the patient was vitally stable, except for a fever of 38°C. She exhibited signs of dehydration, including sunken eyes. Initial management in the emergency room included administration of intravenous normal saline for rehydration and antiemetics. The patient's laboratory results indicated an elevated white blood cell count of 14.8 x 10^9/L, which was markedly higher than the reference range of 4.0 - 11.0 x 10^9/L. Additionally, the C-reactive protein level was markedly elevated at 53 mg/L, which is well above the normal reference range of less than 5 mg/L. Moreover, the procalcitonin level was elevated to 0.37 ng/mL, exceeding the typical reference range of less than 0.05 ng/mL. These laboratory findings collectively indicate a significant inflammatory response, which is likely due to an infection or other inflammatory condition.

Despite intravenous antiemetics, the patient's vomiting persisted. Consequently, the internal medicine team was contacted, and the patient was admitted for further management. The following day, on May 23, 2024, although her fever had subsided and diarrhea improved, the patient continued to experience recurrent vomiting. A consultation was held with the gastroenterology team, who advised that an upper gastrointestinal endoscopy be performed. The endoscopy revealed the presence of extensive candidiasis of the esophagus, characterized by the presence of erosions and whitish plaques coating the mucosa of the esophagus (Figure 1).

Antibiotic therapy was halted, and antifungal treatment with caspofungin was initiated, starting with a 70 mg loading dose followed by a 50 mg daily infusion.

By May 26, 2024, the patient was switched to oral fluconazole 200 mg once daily for seven days. Her condition improved significantly, with no further episodes of vomiting, and she was well-hydrated. Subsequently, she was discharged on fluconazole.

Figure 1:- Upper Gastrointestinal Endoscopy.

Upper gastrointestinal endoscopy showing multiple whitish plaques (black arrows).

Discussion:-

Esophageal infections are uncommon and predominantly affect individuals with compromised immune systems. The most commonly identified pathogens include Candida, herpes simplex virus, and cytomegalovirus (McDonald et al., 1985). It has been observed that Candida establishes itself in the esophagus of 20% of healthy individuals.The pathogenesis of candida esophagitis can be defined as a two-step process. Initially, the organism colonizes the esophagus. Subsequently, it invades the epithelial layer. Once colonization has been established, weakened cellular immunity allows for the invasion of the epithelial layer(Vermeersch et al., 1989).

Although candid esophagitis is frequently observed in individuals with compromised immune systems, it is often challenging to determine the presence of underlying immune deficiencies in every patient. Saeed et al. (Saeed et al., 2016) reported the occurrence of esophageal candidiasis in an 11-year-old girl with uncontrolled type 1 diabetes mellitus who experienced recurring epigastric pain accompanied by vomiting. In a frail elderly patient, Kiba et al. (Kiba et al., 2022)described nausea and vomiting as a consequence of Candida esophagitis. They postulated that immunosuppression associated with malnutrition and weakness may be a contributing factor in the development of esophageal candidiasis.

In the present case, esophageal candidiasis may result from various systemic factors, including type 1 diabetes, prolonged antibiotic use following pyelonephritis, and stress conditions following nephrectomy, which collectively impair immune function. Diabetic patients exhibited a higher incidence and intensity of esophageal candidiasis compared to non-diabetic patients who underwent kidney transplantation. Furthermore, the use of antibiotics allows Candida albicans to overgrow and colonize the body(Gupta et al., 1994).

Patients with Candida esophagitis frequently present with dysphagia and odynophagia (Zakharia and Tabibian, 2018). In most cases, they also have oral candidiasis(Patil et al., 2015).However, this case report demonstrates that the diagnosis of esophageal candidiasis is still valid in the absence of oral candidiasis. Furthermore, our patient experienced recurrent vomiting, fever, and diarrhea that did not improve with antiemetics and antibiotics. The likely cause of repeated vomiting is the combination of esophageal damage caused by Candida infection and acid reflux.

In the present case, extensive candidiasis of the esophagus was characterized by lacerations and gastropathy. The diagnosis was based on the characteristic endoscopic appearance of esophageal candidiasis, which is characterized by the presence of white plaques. These plaques are resistant to cleansing and may exhibit a pale or white coloration(Mohamed et al., 2019).Upper endoscopy with biopsy is the preferred diagnostic technique for confirming the diagnosis and ruling out other potential causes, particularly in individuals who do not improve with symptomatic treatment within a few days.

The treatment of esophageal candidiasis involved the administration of antifungal medications. Caspofungin demonstrated efficacy as an empirical treatment of patients with persistent fever (McCormack and Perry, 2005), but it did not significantly improve esophageal candidiasis. A 14-day course of oral fluconazole was an effective treatment for esophageal candidiasis. This drug is preferred due to its favorable safety profile, ability to be well absorbed in the stomach, and versatility in intravenous administration. Furthermore, fluconazole exhibits rapid onset of action and rapid relief of symptoms(Vazquez, 2010). To date, there have been no documented cases of spontaneous resolution of esophageal candidiasis in a healthy individual without antifungal drugadministration.

In light of our experience, it is imperative to consider the possibility of esophageal candidiasis in a diabetic patient who has recently undergone surgery and presents with persistent symptoms such as persistent vomiting, fever, and diarrhea. This is of particular importance when the patient has not demonstrated improvement with the standard antiemetic and antibiotic treatment.

Conclusions:-

This case study underscores the necessity of considering esophageal candidiasis as a potential diagnosis in patients presenting with persistent vomiting, particularly those with underlying conditions such as diabetes and a recent surgical history. The patient's immunocompromised status, due to type 1 diabetes mellitus and recent nephrectomy, likely predisposed her to this fungal infection. The initial management plan focused on providing symptomatic relief and rehydration. However, the persistence of symptoms indicated the need for further investigation. A consultation with a gastroenterologist and subsequent endoscopy were essential in diagnosing esophageal candidiasis.

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