

Large Fecaloma with Multiple Fecal Impactions in a 12-Year-Old Girl: Case Report

Tarig Yassin Alamery¹, Fuad Mohammed Alkudaysi², Mohammed Rajeh Al Haili³, Hassan Babikir Ahmed⁴, Ibrahim Hadi Alquzi⁵, Ahmed Mohamed Elshahat⁶, Saadiyah Mohammed Alhassani⁷, Turki Mohammed Alhasani⁸, Ali Omar Alalawi⁹, Ali Yassin Alameri¹⁰

1. Consultant of Pediatric Gastroenterology, Department of Pediatric, South Qunfudah Hospital, Kingdom of Saudi Arabia.
2. Pediatric Resident, Department of Pediatric, South Qunfudah Hospital, Kingdom of Saudi Arabia.
3. Consultant of Pediatric and NICU, Department of Pediatric, South Qunfudah Hospital, Kingdom of Saudi Arabia.
4. Consultant of Pediatric, Department of Pediatric, South Qunfudah Hospital, Kingdom of Saudi Arabia.
5. Consultant of Adult Gastroenterology, Department of Internal Medicine, South Qunfudah Hospital, Kingdom of Saudi Arabia.
6. Consultant of Radiology, Department of Radiology, South Qunfudah Hospital, Kingdom of Saudi Arabia.
7. Pediatric Resident, Department of Pediatric, South Qunfudah Hospital, Kingdom of Saudi Arabia.
8. Pediatric Resident, Department of Pediatric, Khamis Mushayt Maternity and Children Hospital, Kingdom of Saudi Arabia.
9. Internal Medicine Resident, Department of Internal Medicine, South Qunfudah Hospital, Kingdom of Saudi Arabia.
10. Senior Registrar, Restorative Dentistry, Department of Dentistry, South Qunfudah Hospital, Kingdom of Saudi Arabia.

Abstract

Fecaloma is a mass of accumulated fecal matter that develops primarily as a consequence of poorly managed chronic constipation. It most commonly occurs in the distal colon and rectum, although it can occasionally be found in other parts of the gastrointestinal tract. While fecalomas are more frequently reported in adults, they are exceedingly rare in children. In this case report, we present a rare instance of a 12-year-old girl who developed a large fecaloma due to chronic constipation, resulting in significant weight loss.

We describe the case of a 12-year-old girl who presented with abdominal pain, constipation, and weight loss over a four-month period. The patient's symptoms were initially unresponsive to multiple laxatives and gradually worsened, leading to a marked reduction in her weight. A contrast-enhanced computed tomography (CT) scan revealed a large fecaloma extending from the transverse colon through to the rectosigmoid colon. The patient was successfully treated with enemas, polyethylene glycol, magnesium citrate, and sodium picosulfate.

Fecaloma is a rare and severe condition in children that often arises due to poorly managed chronic constipation. Early diagnosis and appropriate treatment are essential to prevent complications. Conservative methods, such as laxatives and enemas, can often be effective in managing this condition, although more invasive approaches may be necessary in certain cases.

Keywords: fecaloma, chronic constipation, pediatric case, weight loss, fecal impaction.

Introduction

Fecaloma is a pathological condition that results from an accumulation of hard stool masses within the colon due to prolonged constipation. It can be regarded as an advanced stage of fecal impaction and has severe consequences including abdominal pain, distension, constipation and even weight loss in certain cases. Fecalomas, although seen more in adults, are rare but remarkable events in children and usually remain undiagnosed owing to their vague presentations. The majority of fecalomas are located in the distal colon such as rectum and sigmoid colon but may be seen in cecum and other parts of GI tract also on occasions. In the absence of prompt diagnosis and effective therapies such conditions can lead to life-threatening events like intestinal obstruction, perforation or septicemia[1].

Pathophysiology of Fecaloma Formation

Accumulation and hardening of the stool inside the colon, frequently aggravated by chronic constipation, result in the formation of fecalomas. Chronic constipation refers to a disease state where the person experiences infrequent and difficult or painful bowel movements over a long time frame. They retain feces in the colon which, with time, gets drier and harder as water is reabsorbed. Eventually, when the stool volume becomes excessive, it may create a cloud of mass; piece which is resistant to normal peristalsis and propagates the cycle of constipation leading to impaction [2].

Chronic constipation is the usual /most favorable cause of fecalomas. However, various etiologies may be responsible. In some, Hirshprung's disease, which is a type of congenital disorder where there is an absence of ganglionic cells in the colon leading to the obstruction of bowel movements, is known to affect fecaloma formation. This absence of cells does not allow for the normal propulsion of stool. Other possible reasons include neurological such as spinal cord injury, psychological such as depression and many others. Even non-functional alterations of the colon can predispose to the formation of fecalomas including colonic stricture and megacolon. Fecalomas are sometimes observed in chronic idiopathic constipation and the reason is still unknown. [3]

Epidemiology and Presentation of Fecalomas

In pediatric populations fecaloma is not common, most of the cases being reported for adults, in most cases above the age of sixty. However, where fecalomas are encountered in children, they are often as a result of untreated and prolonged constipation. It has been observed that around 3-5% of children and infants in the limousin region worldwide are affected by a form of chronic constipation which can be categorized as functional in nature, post-surgical in nature such as due to certain anatomical causes as well as having systemic conditions which is less frequently encountered. In children, it is usually in the form of abdominal discomfort, strained defecation or even rare stool events. As a commonplace rule of thumb Warman's classification should be adhered to when establishing a history of individuals presenting as having constipation, as the triadic symptoms of relative encopresis, decreased body mass and abdominal related issues stand at the forefront of potential diagnostic signatures; however, misdiagnosis can occur owing to a constellation of different abdominal complications.[4].

In children fecalomas more commonly have a clinical picture of overflow diarrhea, which is the spilling of water stool around the mass. Overflow diarrhea is the result of a fecaloma impotently hindering the normal passage of feces and is present in the forms of stool passing through voids in the denatured bulk, and passing stool is a natural body function that should occur through a natural orifice. On the subject of mild to moderate obstruction, most such children would present with nausea, vomiting, and anorexia. Children with fecalomas would benefit most from intensive therapy[5]. On the other hand, some patients may be reluctant to eat due to weight loss and gastrointestinal pain secondary to constipation and impaction.

There is a risk of bowel perforation, septicemia, and even death in advanced cases of this condition. It is imperative to promptly identify and manage such issues in children to avoid complicated course[6].

Diagnostic Approach

Fecalomas are primarily diagnosed by the clinician with evidence from the patient's history of being a chronic constipated, and weight loss and abdominal pain with aid from imaging studies. Imaging studies assist in confirming the diagnosis and evaluating the size of the fecaloma. Abdominal X-rays and contrast enhanced CT scans are the most widely used imaging techniques. A CT scan gives information about the size, location and density of the fecaloma and the presence of any complications such as bowel obstruction or perforation are easily determined.[7]

Apart from imaging studies, other techniques may also be done to eliminate other factors of constipation such as thyroid function tests, antibodies for celiac disease and stool examination. These tests are useful in detecting the presence of the disorders, which may lead to the occurrence of chronic constipation and fecaloma in children. Interestingly, if a pediatric patient harbors a symptom scaffold of a fecaloma, a complete medical assessment is required before deciding the treatment plan.[8]

Management and treatment of fecaloma

This essay has highlighted the factors which are considered relevant to the management of fecaloma. The management of fecaloma depends on the mass's size, position, and degree of severity. The treatment of fecalomas is more often managed effectively via medical treatment using comprehensive measures which include, but not limited to, laxatives, enemas and stool softeners. It appears that the most narcissistic among the people is the use of the enema. PEG is also a widely used intolerable osmotic laxative on the screen. It appears that the most narcissistic among the people is the use of the enema. What Picea has observed is that each individual has got a unique way of coercing patients into gaining control during urine retention. He describes how different patients have approached him for resolving urinary retention — clay canals, veggie stocks, PSPs, and water-soaked cotton balls. Perhaps the most interesting aspect of this specific line of therapy is that no one 'prescribes' it nor does it 'side effect.' What it does is fascinates patients. What Picea has observed is that each individual has got a unique way of coercing patients into gaining control during urine retention.

In the post-treatment stage, patients are often encouraged to avoid constipation by working on the factors causing it to avoid future fecalomas. This includes introducing dietary changes such as increasing fiber consumption, adding regular exercises in the daily routine and using laxatives or stool softeners regularly. In young children, it is the education of the child and the caregivers that would help to promote compliance with the treatment regime and avoid the development of chronic complications[11].

Prevention and Prognosis

The most important factor in avoiding the development of fecalomas in children is the prompt recognition and treatment of chronic constipation at the time of onset. It is necessary for pediatricians and other health care providers to have a high index of suspicion regarding the diagnosis of constipation and any of its components, especially if the child does not respond to measures aimed at treatment of constipation targeted at the primary cause. It cannot be overemphasized that follow-up visits coupled with prompt treatment are essential for the prevention of the relapse of fecalomas and their associated constipation conditions[12].

If associated chronic constipation is recognized and treated, the prognosis for children suffering from fecalomas is invariably good. Most children achieve good clinical results with conservative measures and are able to completely normalize bowel activity. It should be noted however that in instances of severe forms of fecalomas, or where there are significant associated factors, the outcome may not be very good. If appropriate steps are taken at the right time, major complications can be avoided and the prognosis of the affected children can be improved[13].

Fecaloma is most often associated with chronic constipation especially in pediatric cases. Normally, it occurs when a mass of tough dry stool is found within the colon causing a variety of symptoms including nausea, anorexia, and possible complications such as bowel blockage or even rupture. Despite its uncommon nature, fecalomas can be considered in the differential diagnosis of children with chronic constipation, abdominal pain and loss of body weight. Imaging techniques including X-rays, ultrasound and CT scans can also be used for the early diagnosis with conservative treatment being the most appropriate. Long term no harmful effects are most often focal to re-initiation of fecalomas focusing on the cause of constipation, and bowel rehabilitation helps patients restore normal function and health[14].

Case Presentation

A 12-year-old girl was referred to the pediatric gastroenterology clinic due to persistent abdominal pain, constipation, and significant weight loss over the past four months. The patient's parents reported that her constipation had been ongoing for approximately one year and had become progressively worse. She complained of vague, intermittent abdominal pain localized around the umbilicus, along with decreased appetite and a noticeable lack of energy. Additionally, she experienced stool soiling, which had become more frequent as the constipation worsened.

The patient's medical history revealed no significant prior gastrointestinal issues, though her constipation had been resistant to treatments with over-the-counter laxatives prescribed by general practitioners. The child also experienced a dramatic weight loss of 20 kilograms over the last four months, which caused her to miss school regularly. Her parents reported that there was no blood or mucus in her stools, and she did not experience symptoms such as vomiting, nausea, or fever.

Upon examination, the patient appeared generally well, with vital signs within normal limits. Cardiovascular and respiratory examinations were unremarkable. Abdominal palpation revealed mild suprapubic tenderness without any palpable masses, and the abdomen was soft, with no signs of distention. Laboratory tests, including calcium levels, thyroid function, erythrocyte sedimentation rate (ESR), hemoglobin levels, C-reactive protein (CRP), and celiac antibody tests, all returned normal results. Stool cultures and analysis were unremarkable.

A contrast-enhanced abdominal CT scan was performed to evaluate the gastrointestinal tract. The scan revealed a markedly distended colon, with fecal matter accumulated throughout the transverse, descending, and rectosigmoid colon, leading to the diagnosis of a very large fecaloma. The maximum caliber of the fecaloma was approximately 7 cm in the rectum (Figures 1 and 2).

Following the diagnosis, the patient was treated conservatively with a combination of enemas, polyethylene glycol, magnesium citrate, and sodium pico sulfate to evacuate the fecaloma. After the initial treatment, the patient's symptoms began to improve, and she was transitioned to a regular regimen of polyethylene glycol to maintain proper bowel function and prevent further constipation. Follow-up visits over the next two months showed complete resolution of the abdominal pain and constipation, with the patient also experiencing significant weight gain and returning to school.

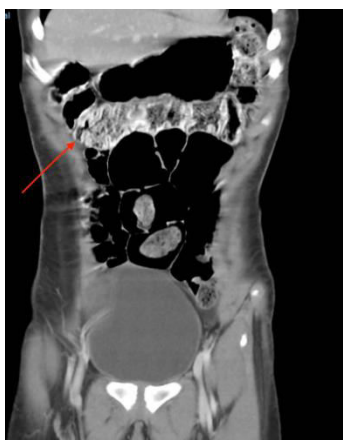


Figure 1 Contrast-enhanced CT scan showing marked distention of the colon and a large fecaloma extending from the transverse colon to the rectosigmoid colon

Contrast-enhanced CT scan showing a large fecaloma extending from the transverse colon through the descending colon to the rectosigmoid area. The fecal mass is significantly distended and heavily loaded with fecal material, with the maximum diameter reaching approximately 7 cm at the rectum. This imaging highlights the extent of the fecaloma in a patient with chronic constipation.



Figure 2 CT Scan Imaging of a Large Fecaloma Extending from the Transverse Colon to the Rectosigmoid Colon

The Contrast-enhanced CT scan showing a marked distention of the colon, from the transverse colon through the descending colon to the rectosigmoid area, heavily loaded with fecal matter. The image demonstrates a large fecaloma, with the maximum caliber of the fecal mass reaching approximately 7 cm in the rectum.

Methodology

This case report aims to accurately portray the diagnosis, management and therapy delivered to a 12-year-old girl with fecaloma, placing particular emphasis on the techniques employed to understand and rectify the problem. The methodology is case based in the assessment, diagnosis, management, and follow-up. The report explains how the patient was treated, from a history and physical all the way to treatment of her conditions that had been present. The case study is not experimental in nature, is not longitudinal, nor does it have controls, as it is case report on the subject of the clinical features and management of the one patient.

Patient Selection

The patient presented in this case report was a 12-year-old female who was referred to the surgical gastroenterology unit for recurrent abdominal pain, constipation and loss of appetite. There was a background history of chronic constipation where several laxatives prescribed by the primary physician had no effect. Further investigation led to the discovery of a large fecaloma and several fecal impactions which were responsible for her recurrent gastrointestinal complaints. This patient met the reporting criteria as there is a relative lack of literature on pediatric fecalomas and this patient did well with conservative management.

Data Collection**Clinical Assessment**

The clinical history of the patient which consisted in more detail of the symptoms, the time of their occurrence and how the condition had previously been treated was taken into consideration. This involved:

Symptom Duration and Onset: The patient chronicled a history of abdominal discomfort, constipation and twenty kilograms in weight loss that has been over a period of four months. The vagueness of the abdominal pain clinical presentation was sparsely in the area around the umbilicus and was more of being changing in nature. Constipation from rectal impaction for the last one year was reported with associated fecal smearing. Weight loss to the extent of 20 kilogram, an un-diagnosed state of undernutrition was reported by the patient progressing for the last four months. These symptoms were serious enough to preclude the patient from going to school and rendered her activities to have very low level of quality.

Previous Medical History: The patient was maintained on laxatives bought over the counter to treat constipation but she did not report any change in her symptoms at all. Vomiting, nausea, body temperature changes or fever and blood/mucus in stool were not documented. Subject did not report any history of severe illnesses in the past or family history which may be related to the diseases of the gastrointestinal tract.

Physical Examination: Abdominal and gastrointestinal systematic physical examination were performed and documented. The basic parameters were distributed within the limits of normal range and did not reveal any pathological changes on the surface of cardiac and lungs. Overall abdominal examination demonstrated presence of mild suprapubic tenderness, but masses and distension were not revealed.

Laboratory Tests: A routine investigative blood workup was done to rule out any systemic cause. Calcium was within normal limits, the thyroid hormones were normal, ESR was normal, hemoglobin was normal as well, and CRP along with celiac antibodies were negative. Stool examination was also negative with no growth on stool culture.

Diagnostic Imaging

In order to determine the amount of the fecaloma that was present as well as its position, a contrast-enhanced CT scan was done. The CT scan images allowed the clinician to properly define the size, position, and different features of the fecal impaction. The CT scan showed:

Large Fecaloma: There was notable widening of the colon along the transverse colon up to the rectosigmoid colon. Heavy burden of faecal material in the colon was indicative of a large fecaloma. The largest measured fecal mass diameter implicated in the rectum was around 7 centimeters.

Absence of Other Pathologies: No structural causes like tumours, strictures, or other GI pathology which could cause significant constipation or the development of a fecaloma was apparent in the images.

Treatment Protocol**Conservative Treatment Plan**

According to the clinical findings and based on the results of CT scans, a conservative treatment plan was worked out that included the following components:

Enemas: The first step in treatment was the application of rectal enemas the purpose of which was to soften and displace the hard bowel mass. The administration of the enemas was done stepwise in such a way that over-evacuation of the impacted stool was gradually achieved. The purpose of the approach was to cause minimal to moderate pain and to avoid the risk of the colon being injured during the invasion.

Osmotic Laxatives: Polyethylene glycol (PEG) was used in large amounts as the medication aimed at loosening the plugs in the intestines and facilitating the bowel movement. PEG is an osmotic laxative which pulls fluid into the colon, softening the stool and making it easier to pass. The patient was advised to take PEG for a few days and avoid taking any laxatives to give time for softening and passing of the stool.

Magnesium Citrate and Sodium Picosulfate: For the purpose of evacuation, magnesium citrate, which is known to promote bowel motility, was recommended to the patient. Besides this, sodium picosulfate, a stimulant laxative, was also added with the purpose of enhancing peristalsis in order to achieve complete evacuation of the impacted stool.

Regular Follow-Up and Maintenance: While the patients were given the first treatment for the initial phase of the treatment process, that is the high dose of PEG 3350, nausea for them was kept to a minimum by switching them onto a routine, lower dose of PEG (3350) afterwards that was intended for maintenance purposes. Patients would then be able to avoid any chances of a re-impaction or fistula and promote verse bowel movements by the use of stool softeners.

Post-Treatment Follow-Up

Such an adverse event would be expected in most patients with chronic courses such as this device and given that there was no abscess, treatable complications were absent. There has been a timely follow-up as well - two months later during the scheduled consultations, there was an evaluation of the treatment progress:

Resolution of Symptoms: The patient has been suffering from the same problems as all other patients, and the control ones, from the last visits, constipation and abdominal pain that now seem to be resolved completely in Mrs G. The patient regained weight and even began to attend school again.

Ongoing Monitoring: In the event that a single case has been encountered during the surgery aimed at placing the patients, an operative technique was developed to be utilized in preserving the functional ability of the gastrointestinal tract. The aim of the surgery alone was to maintain awareness on patients' health so as to avert a relaxation of bowel management and educate patients about the benefits of exercising with high fiber content and eating a range of foods.

Ethical Considerations

The study was not in conflict with ethical principles, and informed consent was provided by the parents of the patient towards presentation and publication of the case report. Confidentiality of the subjects during the period of the study was assured, and no identifying details of patients were released in violation of medical privacy laws.

Discussion

Fecaloma is a rare and severe manifestation of fecal impaction, typically occurring in patients with longstanding, poorly managed chronic constipation. It results from the accumulation of hardened stool in the colon, which forms a solid, often obstructive mass. The condition presents with a range of nonspecific symptoms, including constipation, weight loss, abdominal pain, and overflow diarrhea (stool soiling).

While fecalomas are frequently reported in adults, their occurrence in children is uncommon, making this case noteworthy. Most reported cases of fecaloma are associated with chronic constipation, which in turn can be related to various underlying causes such as motility disorders, Hirschsprung's disease, neurological conditions, psychiatric disorders, and even structural abnormalities of the colon. However, the most frequent cause of fecaloma in both adults and children is untreated or poorly managed constipation.

The clinical presentation of fecalomas often involves vague abdominal pain, constipation, and a reduction in appetite, all of which were seen in our patient. The abdominal pain is generally intermittent and poorly localized, and the constipation may become progressively worse, leading to stool soiling and eventual fecal impaction. Weight loss, as seen in our case, can be a significant feature of the condition, and this symptom is thought to be related to malnutrition due to the inability to properly digest or absorb nutrients as a result of gastrointestinal obstruction.

The diagnosis of fecaloma is typically made through imaging studies such as CT or abdominal X-rays, which show the presence of a large fecal mass. In some cases, endoscopic examination may be performed, particularly if manual disimpaction or conservative treatment methods fail. In the present case, CT imaging provided clear evidence of the fecaloma, which was confirmed upon clinical examination.

Most cases of fecalomas can be successfully treated with conservative methods, including enemas, laxatives, and manual disimpaction. Our patient responded well to this approach, with significant improvement in her symptoms following treatment. However, more invasive interventions such as endoscopic removal or, in rare cases, surgical resection, may be required for larger or more resistant fecalomas.

In addition to medical treatments, it is crucial to address the underlying cause of constipation in order to prevent future occurrences. This can involve dietary modifications, regular physical activity, and the use of laxatives or stool softeners to maintain regular bowel movements. Long-term management strategies often include ongoing monitoring and the use of maintenance therapies such as polyethylene glycol.

Conclusion

Fecaloma is a rare but serious condition, particularly in children, and it is primarily caused by chronic constipation that has been poorly managed. Early diagnosis, often through imaging studies such as CT scans, and prompt intervention with conservative treatments such as enemas, laxatives, and stool softeners, can lead to significant improvement in symptoms. It is important to address the underlying causes of constipation to prevent recurrent fecalomas, and close follow-up is necessary to ensure the patient remains free from further complications. Given the potential for serious complications, including bowel perforation or infection, pediatricians and gastroenterologists should remain vigilant in diagnosing and managing constipation in children to prevent this rare but concerning condition.

References

1. Logre, E., Degravi, L., Plantefève, G., & Contou, D. (2020). A fatal fecaloma. *International Journal of Emergency Medicine*, 13, 1-3.
2. Nahar, R., Fernandes, D., & Santos, M. (2021). Fecaloma-A Common Problem, Uncommon Dimensions. *Rhode Island Medical Journal*, 104(10), 7-9.

3. de Souza, D. H. S., Morais, L. K., Neto, S. G., Bafutto, M., Oliveira, D. E. C., Oliveira, C. C., ... & Oliveira, Ê. C. (2024). Fecaloma: Classification, Treatment, and Outcomes. *World Journal of Colorectal Surgery*, 13(4), 124-130.
4. Gil, A. G., Liu, Q., & Ho, S. (2020). Giant Fecaloma Causing Large Bowel Obstruction: A Case Report. *Gastro Med Res*, 5(1).
5. Ramesh, R., & Veeraraghavan, R. (2022). A case of giant fatal fecaloma. *International Surgery Journal*, 9(12), 2096-2097.
6. Tiruneh, A. G., Merine, S. K., & Solomon, M. (2021). Ileal fecalomas causing small bowel obstruction: a case report. *International Journal of Surgery Case Reports*, 85, 106256.
7. Garisto, J. D., Campillo, L., Edwards, E., Harbour, M., & Ermocilla, R. (2009). Giant fecaloma in a 12-year-old-boy: a case report. *Cases Journal*, 2, 1-4.
8. Abella, M. E., & Fernández, A. T. (1967). Large fecalomas. *Diseases of the Colon & Rectum*, 10(5), 401-404.
9. Rajagopal, A., & Martin, J. (2002). Giant fecaloma with idiopathic sigmoid megacolon: report of a case and review of the literature. *Diseases of the colon & rectum*, 45, 833-835. DOI: [10.1007/s10350-004-6306-x](https://doi.org/10.1007/s10350-004-6306-x)
10. Cid, A. A., Pietruk, T., Bidari, C. Z., & Ehrinpreis, M. N. (1981). Cecal fecaloma mimicking colonic neoplasm. *Digestive Diseases and Sciences*, 26, 1134-1137. DOI: [10.1007/BF01295981](https://doi.org/10.1007/BF01295981)
11. Sakai, E., Inokuchi, Y., Inamori, M., Uchiyama, T., Iida, H., Takahashi, H., ... & Nakajima, A. (2007). Rectal fecaloma: successful treatment using endoscopic removal. *Digestion*, 75(4), 198-198. DOI: [10.1159/000108627](https://doi.org/10.1159/000108627)
12. Garisto, J. D., Campillo, L., Edwards, E., Harbour, M., & Ermocilla, R. (2009). Giant fecaloma in a 12-year-old-boy: a case report. *Cases Journal*, 2, 1-4. doi: [10.1186/1757-1626-2-127](https://doi.org/10.1186/1757-1626-2-127)
13. Kim, K. H., Kim, Y. S., Seo, G. S., Choi, C. S., & Choi, S. C. (2007). A case of fecaloma resulting in the rectosigmoid megacolon. *Kor J Neurogastroenterol Motil*, 13(1), 81-85.
14. Iwamuro, M., Okada, H., Matsueda, K., Inaba, T., Kusumoto, C., Imagawa, A., & Yamamoto, K. (2015). Review of the diagnosis and management of gastrointestinal bezoars. *World journal of gastrointestinal endoscopy*, 7(4), 336. DOI: [10.4253/wjge.v7.i4.336](https://doi.org/10.4253/wjge.v7.i4.336)