

Vaka Raporu– Case Report

THE ATYPICAL HUGE DUODENAL DIVERTICULUM LIKE FLOWER  
BUDS

ÇİÇEK TOMURCUĞU ŞEKLİNDE ATİPİK DEV DUODENAL DİVERTİKÜL

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Geliş Tarihi (Received Date) :05.04.2019  
Kabul Tarihi (Accepted Date) :18.04.2019  
Basım Tarihi (Published Date): 30.05.2019

Özet

Duodenal divertiküller sağlıklı popülasyonun %5 ile %22'sinde görülürler. Çoğunlukla asemptomatiklerdir ve üst gastrointestinal sistemin baryumlu incelemesi sırasında insidental olarak saptanırlar. Büyük kısmı duodenumun ikinci kısmında ampulla Vateriye yakın lokalizasyonda görülür. Genellikle duodenumun medial ya da pankreasa komşu kenarında lokalize, nodüler şekilli, 0.3-3 cm çaptadırlar.

Biz burada çiçek tomurcuğu şekliyle diğer olgulardan ayrılan, yaklaşık 4 cm çaplı ve duodenumun medial kenarında lokalize divertikulum olgusunu sunduk. Ayrıca dev divertikulum komşuluğunda başka bir divertikül daha mevcuttu.

**Anahtar kelimeler:** Divertikül, duodenum, floroskopi

Abstract

Duodenal diverticula are seen 5% to 22% of a healthy population. They are mostly asymptomatic and diagnosis is commonly incidental by upper gastrointestinal barium examination. Diverticulum of duodenum majorly seen in the second part of duodenum near ampulla of Vater. They are usually localized on medial or pancreatic border of the duodenum, nodular in shape, 0.3-3 cm in diameter.

We report a diverticulum different in shape like flower bud, nearly 4 cm in diameter and at the medial border of the duodenum. There was also another diverticulum neighbour to the huge diverticulum.

**Keywords:** Diverticulum, duodenum, fluoroscopy

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## 1. INTRODUCTION

Duodenal diverticula are seen commonly in clinical practice. In literature, estimated incidence is between 5%-22% (Iida F, 1979, p.135). These occur mainly in later decades of life with peak incidence between 50 and 60 years of age (Lane JE et al., 2001, p.2799). There is no gender predisposition but female preponderance has also been reported (Lane JE et al., 2001, p.2799). Duodenal diverticula are usually asymptomatic (Knoefel WT et al., 1994, p.943). In fact, it may also be asymptomatic even if perforation occurs which is the most severe complication with up to 20% mortality.

They are usually seen on medial or mesenteric border of duodenum nearby ampulla of Vater. For diagnosis, there are some choices as direct abdominal radiographs, ultrasound, upper gastrointestinal barium examination, computerized tomography (CT) and endoscopy but it is usually determined by endoscopy especially the ones that have side viewing on it and barium examination as diverticulum keeps contrast for a longer time. They do not require treatment when they are asymptomatic.

## 2. CASE REPORT

An 81-year-old female patient admitted to our hospital with complaint of dysphagia. There was no findings on the physical examination. Due to dysphagia, upper gastrointestinal barium examination was performed. On the barium study, about 4 cm in diameter, narrow-necked diverticular pouch which was grown into the medial border (mesenteric or pancreatic side) was found on the middle part of the second segment of the duodenum. Morphological appearance of the diverticulum was in different configuration that of smooth rounded. Contour of the diverticulum was lobular and between these lobule the new narrow-necked diverticula were seen like budding (Figure 1). We described it as bud diverticulum because of flower bud-shaped appearance which was rarely seen in literature. In this case, also another second diverticulum which was usual nodular shape and about 1 cm in diameter were identified on beginning of the fourth segment of the duodenum (Figure 1). Surgical or endoscopic resection was not carried out because of the patient's decision. She has been no other symptoms or complications at follow up. Verbal consent was obtained from the patient for this case report.

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## 3. DISCUSSIONS

Duodenum is the second most common site of diverticula in gastrointestinal tract after colon (Knoefel WT et al., 1994, p.943). Diverticulum of duodenum is majorly asymptomatic (Knoefel WT et al., 1994, p.943). Clinical presentation may be characterized by non-specific abdominal symptoms and less than 5% of patients have abdominal symptoms. Abdominal discomfort is usually located in epigastrium, right upper abdomen or umbilical area which is made worse or brought on by eating and relieved by vomiting, belching or assuming certain posture. But it rarely causes life threatening complications. Most common complications are bleeding, pancreatitis, common bile duct obstruction. Perforation is the rarest and also most serious complication with the mortality up to 20% (Psathakis D et al., 1994, p.257). Since duodenal diverticula are retroperitoneal structures, their perforation results in neither signs of peritonitis nor free intraperitoneal gas.

Diverticula of duodenum are classified as primary and secondary. Majority of secondary or false diverticula which may be secondary to peptic ulcer disease whereas primary are true diverticula.

Over 95% of duodenal diverticula project from inner or pancreatic or mesenteric border of duodenal curve in second, third and fourth parts. Second part is the most common site with 85% to 90% of total duodenal diverticula (Lane JE et al., 2001, p.2799). Many of them are near the ampulla of Vater so they are known as perivaterian or periampullary diverticula which are within 2 cm of ampulla of Vater. The third and fourth parts of duodenum have 20% and 10% of diverticula respectively, but up to 30% to 40% of these may arise from the third and fourth part of duodenum (Afridi SA et al., 1991, p.935). These are usually spherical or hemispherical and oval in shape often resembling Erlenmeyer flask showing narrow neck.

Most diverticula are between 0.3 and 3 cm in diameter (Kiani L et al., 2007, p.141). Caronia, et al, reported a patient with a 6-cm duodenal diverticulum (Caronia V et al., 1998, p.1039). The larger ones are mostly found at duodeno-jejunal flexure. Bizarre multilobulated or giant diverticula are occasionally seen (Kiani L et al., 2007, p.141).

Diverticulum may be single or multiple and as many as 6 or more has been reported. The incidence of multiplicity in x-ray series is 1.4% to 23.5% and 3.5% to 30% in autopsy series.

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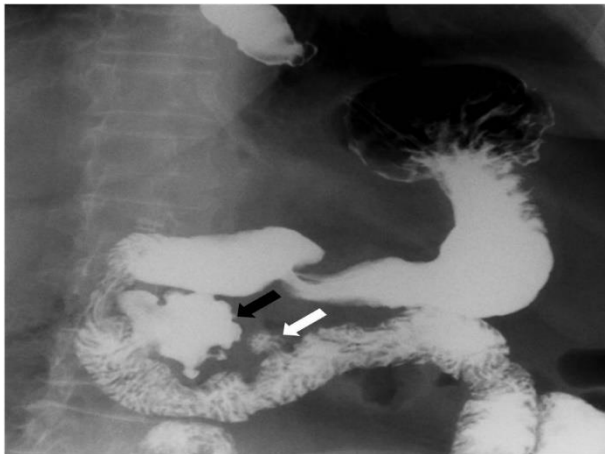
Diagnosis of duodenal diverticulum is mostly incidental on upper gastrointestinal barium examination after ingestion of barium. Contrast media may remain for a longer time in the diverticulum than the duodenum itself. Barium retention for 6 or more hours is diagnostic. The use of a small amount of barium may help to avoid the overlapping of duodenum by jejunal loops and by the completely filled stomach. Sac is better visualized from 1-2 hours following the opaque meals. In the first part of duodenum, pseudodiverticula occur proximally to stenosing duodenal ulcer. These have either no neck or a very wide neck and are much longer, narrower than true diverticula, these are invariably associated with duodenal deformity distally. In the second part a small diverticulum may resemble the niche of a post bulbar ulcer. The presence of a small neck differentiate ulcer niche. In the third part diverticulum from upper jejunal loops may be confused with diodenal diverticula. This problem can be solved by taking graphs with other positions (Caronia V et al., 1998, p.1039). In most intances plain abdominal radiographs or ultrasounds are used as the first imaging techniques with poor findings and preoperative diagnosis is usually incorrect. CT is the modality of choice when the complications are suspected.

Upper gastrointestinal endoscopy is another important investigation for diagnosis of duodenal diverticulum. It is successful in diagnosing the diverticulum in more than 75% of patients (Materne R, 2001, p.749). Side viewing endoscopy may further increase the success rate. The rate of failure of endoscopy to diagnose the diverticulum may increase if diverticulum is situated in the third or fourth part of the duodenum (Materne R, 2001, p.749).

There is no need for surgery as they are asymptomatic. Diverticulectomy may be a choice when it is symptomatic. When diverticulectomy is done, only about 50% of patients treated by diverticulectomy electively were entirely relieved of their symptoms (Knoefel WT et al., 1994, p.943). When diverticulum is perforated, surgical treatment is the most frequently performed approach but Martinez et al treated a perforated diverticulum conservatively with antibiotics and percutaneous drainage of secondary retroperitenal abscesses and they suggested this method if the patient was in good general condition and without septic signs (Martinez-Cecilia D et al., 2008, p.1949).

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In conclusion, duodenal diverticula are present commonly in clinical practise but they rarely cause problems to the patient. As 95% of them are asymptomatic they are usually detected incidentally. Barium examination of gastrointestinal tracts are very useful for the diagnosis of duodenal diverticula. These are usually nodular in shape resembling a “broccoli” some with lobulated margins and having a narrow neck but the clinician should be careful because of unexpected appearances like flower buds.



**Figure 1:** The atypical duodenal diverticulum like flower buds could be seen on the second part of the duodenum (black arrow). Also another diverticulum that was usual nodular shaped like a broccoli was observed on the beginning of the fourth part of the duodenum (white arrow).

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