



Gull Pancreas: A Case Report

Martı Pankreas: Bir Olgu Sunumu

Deniz Şenol¹, Furkan Çevirgen¹, Leyla Karaca², Mustafa Canbolat¹, Davut Özbağ¹

¹İnönü University, Faculty of Medicine, Department of Anatomy, Malatya, Turkey

²İnönü University, Faculty of Medicine, Department of Radiology, Malatya, Turkey

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Abstract

The normal anatomical location of the pancreas behind the bursa omentalis, the stomach and transverse colon, starting from the curvature of the duodenum until the spleen extends transversely and upward. Lobulations considered to be variational in the pancreatic tail section were determined in a 67-year-old male patient coming to Inonu University Turgut Ozal Medical Center Urology Department with urinary burning complaint and diagnosed with benign prostatic hyperplasia. As a consequence pancreas likened to gull was named gull pancreas in the result of CT.

Keywords: Pancreas, gull, anomaly, radiology

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Normal anatomik yerleşim olarak küçük periton boşluğu bursa omentalis, mide ile transvers kolon'un arkasında bulunan pankreas, duodenumun kavsinden başlayarak dalağa kadar transvers ve yukarı doğru uzanmaktadır. İnönü Üniversitesi Turgut Özal Tıp Merkezi Üroloji Polikliniği'ne idrarda yanma şikâyeti ile gelen ve kendisine benign prostat hiperplazisi ana tanısı konan 67 yaşında erkek bir hastada pankreas kuyruk kesimde varyasyonel olduğu düşünülen lobülasyonlar olduğu tespit edildi. Pankreasın şekli çekilen BT sonucunda martıya benzetildiği için martı pankreas olarak isimlendirildi.

Anahtar Kelimeler: Pankreas, martı, anomali, radyoloji

INTRODUCTION

Pancreas between the 4th and 7th weeks of the intrauterine period develops from the dorsal and ventral pancreas buds of endoderm cells on the inner face of the duodenum. The dorsal pancreas bud developing faster than the ventral pancreas bud is located in the cranial part of the hepatic diverticulum, whereas there is a ventral pancreas in the caudal area of the hepatic diverticulum (1, 2). The cranial part of the pancreas hood, corpus and caudal evolve out of the dorsal bud, while the inferior part of caput pancreas and processus uncinatus develops from the ventral bud (1, 3-5). The pancreas whose length is 12-15 cm if the cadaver is removed and 20 cm without fixation, which is at the level of the L1-L3 vertebrae in the vertebral column, is a secondary retroperitoneal organ (1, 2, 6-9). Pancreas soft, yellowish-slightly reddish in color, has approximately 15 cm thick and 1 cm wide as well as 80 g for women and 100 g for men. The pancreas has four sections including

caput pancreatic, column pancreatic, corpus pancreatic and caudal pancreatic, in addition to processus uncinatus admitted being an accessory lop (10-12). In this study, a case of pancreas larger than normal will be presented. As a matter of fact that such a presentation was not found before.

Case Presentation

The case was detected in 2017 in a 67-year-old male patient coming to Inonu University Turgut Ozal Medical Center with the urinary burning complaint and diagnosed as benign prostatic hyperplasia. In the result of CT, it was revealed that his pancreas was larger than normal. It is observed that there were lobulations considered to be variational in the tail of the pancreas starting from the abdominal wall and forming a fold in the anterior part of the left renal veins and ending by creating lobulations. Ultimately, the shape of the pancreas resembling a gull was called to be a gull pancreas (Figure 1).

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Sorumlu Yazar /Corresponding Author: Deniz Şenol, Department of Anatomy, Faculty of Medicine, İnönü University, Malatya, Turkey

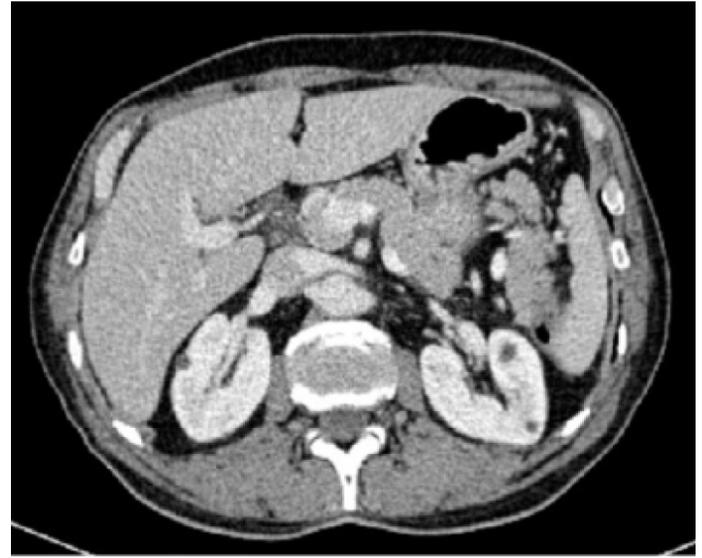
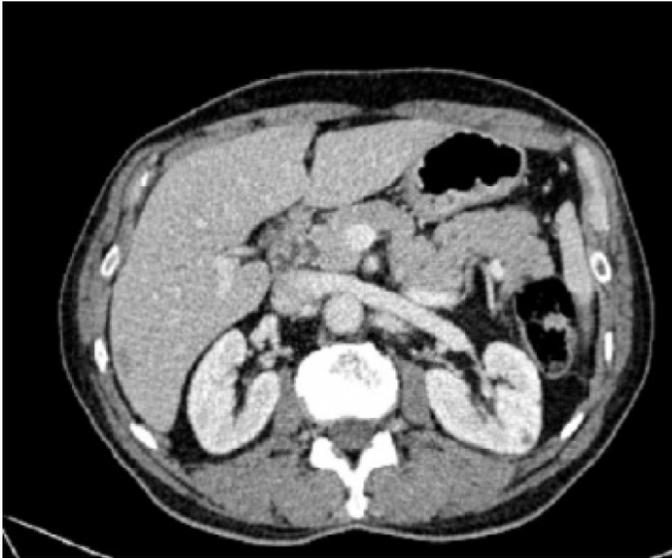


Figure 1. Gull-shaped pancreas in axial-contrast

DISCUSSION

There are many variations and anomalies for the pancreas. However, we rarely see anomalies encountered clinically and problematic. Ectopic pancreas, dorsal or ventral pancreas agenesis, pancreas divisum, annular pancreas, ductal anomalies are defined as congenital developmental anomalies of the pancreas. First of all, rotation and fusion in pancreatic buds are known as critical developments playing a role in the occurrence of anomalies in the embryological period (13,14). Firstly, the ectopic pancreatic tissue is usually seen in the lower mucosa of the gastric antrum (30%), in the proximal portion of the duodenum (30%), in the remaining duodenum (20%) or in other parts of the small intestine (20%) (15). Furthermore, the incidence of pancreas agenesis is low. The reason why it gives rise to severe delay is to lead to diabetes mellitus and malabsorption what is more cases usually result in death (16,17). Besides, pancreas divisum a paramount anatomic variation with the prevalence of 4%-10% appears as the opening of the dorsal and ventral ducts in the duodenum in different ways (18,19).

Also, annular pancreas occurring with the surrounding the second part of the duodenum starting from caput pancreatic is a congenital anomaly. It has been reported that annular process is associated with Down's syndrome, tracheo-esophageal fistula, cardiac anomalies and intestinal malrotation (20). As mentioned above, pancreas variation and anomaly are commonly seen. Yet, a gull-shaped variation has not been described previously. On top of that, in this case report, pancreatic rejection, which is not seen in the literature was presented and information about the location and dimensions of pancreas was given according to normal human anatomy. We believe that this study will be a resource for further studies as well as contributing to the physicians working on pancreas.

ORCID ID

Deniz Şenol 0000-0002-6226-9222
Furkan Çevirgen 0000-0003-0181-4463
Leyla Karaca 0000-0001-9150-3823
Mustafa Canbolat 0000-0001-6986-8578
Davut Özbağ 0000-0002-7721-9471

REFERENCES

1. Arıncı K, Elhan A. *Anatomi*, 1. cilt. 5. baskı. Ankara: Güneş Kitabevi. 2014; 261-5.
2. Moore KL, Dalley FA. *Clinically oriented anatomy*, 4th ed. USA: Lippincott Williams&Wilkins, 1999; 257-61.
3. Snell RD. *Clinical anatomy by regions*. 8.th ed. USA: Lippincott Williams&Wilkins, 2007; 256-8.
4. Tanaka T, Ichiba Y, Miura Y, Itoh H, Dohi K. Variations of the pancreatic ducts as a cause of chronic alcoholic pancreatitis; ansa pancreatica. *Am J Gastroenterol*. 1992; 87: 806.
5. Moore KL, Persaud TVN. *Biz doğmadan önce embriyoloji ve doğum defektlerinin temelleri*, (Çev ed. Müftüoğlu S.), 7. baskı. Ankara: Güneş Kitabevi. 2009;129-38.
6. Skandalakis JE, Skandalakis PN, Skandalakis LJ. *Surgical anatomy and technique; a pocket manual*, 2nd ed. USA: Springer Science Inc, 2000;381-94.
7. Mulholland MW, Simeone DM. *Pancreas: anatomy and structural anomalies*. In: Yamada T, Alpers DH, Laine L, Owyang C, Powell DW. eds. *Textbook of Gastroenterology*. 3rd ed. Vol. 2. Philadelphia: Lippincott, Williams & Wilkins 1999;2107-20.
8. Standring S. *Gray's Anatomy: the anatomical basis of clinical practice*, 40th ed. UK: Churchill Livingstone Elsevier 2008;1183-90.
9. Toni R, Favero L, Bolzani R, Roversi R, Vezzadini P. Further observations on the anatomical variation in the arteries of the human pancreas. *IRCS Med Sci*. 1985;13:605-6.
10. Larsen WJ. *Human embryology*. 2nd ed. New York: Churchill Livingstone Inc, 1997;235-8.

11. Bardeesy N, De Pinho RA. Pancreatic cancer biology and genetics. *Nat Rev Cancer* 2002;2:897-909.
12. Borley NR. Pancreas. In: *Gray's anatomy*, 39th ed. Edinburgh: Churchill Livingstone, 2005;1231-3.
13. Karayalçın K. Pankreas anomalileri. *T Klin Cerrahi* 2001;2:71-4.
14. Schnedl WJ, Piswanger-Soelkner C, Wallner SJ, Reittner P, Krause R, Lipp RN, Hohmeier HE. Agenesis of the dorsal pancreas and associated diseases. *Dig Dis Sci* 2009;54:481-7.
15. Thoeni RF, Gedgudas RK. Ectopic pancreas: usual and unusual features. *Gastrointest Radiol* 1980;5(1):37-42.
16. Ashraf A, Abdullatif H, Hardin W, Moates JM. Unusual case of neonatal diabetes mellitus due to congenital pancreas agenesis. *Pediatr Diabetes* 2005;6:239-3.
17. Baumeister FA, Engelsberger I, Schulze A. Pancreatic agenesis as a cause for neonatal diabetes mellitus. *Klin Padiatr* 2005;217:76-81.
18. Soto JA, Lucey BC, Stuhlfaut JW. Pancreas divisum: depiction with multidetector row CT. *Radiology* 2005;235:503-8.
19. Kuo M, Wrang F, Liu KH, Jan Y. Post-gastrectomy acute pancreatitis in a patient with gastric carcinoma and pancreas divisum. *World J Gastroenterol* 2009;15:4596-600.
20. Zyromski NJ, Sandoval JA, Pitt HA, Ladd AP, Fogel EL, Mattar WE, Sandrasegaran K, et al. Annular pancreas: dramatic differences between children and adults. *J Am Coll Surg* 2008;206:1019-25.