Case Report

Duodenal adenocarcinoma: a rare cause of intestinal obstruction in young adult

Parth Parmar*, Shadan Ali, Romesh Lal, Saurabh Borgharia, Manoj Andley, Gyan Saurabh

Department of Surgery, Lady Hardinge Medical College, New Delhi, India

Received: 24 December 2020
Accepted: 04 February 2021

*Correspondence:
Dr. Parth Parmar,
E-mail: parthparmar531993@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Primary adenocarcinoma of duodenum is a very rare and aggressive malignancy, found in middle or elderly age group and usually arising in the second portion of the duodenum, followed by third or fourth. Cancers of the first portion of the duodenum, especially the duodenal bulb are extremely rare. The causative factors for duodenal adenocarcinoma are dietary factors, ingestion of alcohol, coffee and use of tobacco. It may occur from duodenal polyps present in familial polyposis or may be associated. In young age it is associated with polyposis syndromes or with Crohn’s disease affecting small bowel. Very few reports discuss the diagnosis and treatment of such malignancy and very few cases have been reported in young age less than 30years. We are reporting a case of 22 years old gentleman who presented to us with history of recurrent abdominal pain and vomiting. After evaluation it was diagnosed as adenocarcinoma of third and fourth part of duodenum without any associated syndromes or inflammatory bowel diseases and was managed by surgical resection and chemotherapy.

Keywords: Duodenal adenocarcinoma, Young adult, Intestinal obstruction

INTRODUCTION

Duodenal adenocarcinoma is rare cancer that accounts for less than 1% of all gastrointestinal cancers. The causative factors include increased intake of bread, pasta, sugar and red meat, alcohol, coffee, tobacco and reduced intake of fruits and vegetables. It can arise from duodenal polyps seen in familial adenomatous polyposis (FAP) and Gardner syndrome, or can be associated with celiac disease. They mainly occur in second part of the duodenum, followed by third and fourth. Usually it is seen in middle or elderly age person. In young age, it is associated with polyposis syndromes or with any inflammatory diseases affecting small bowel. But without such syndromes or diseases, it is rare in young age. We are reporting a case of 22 years old male who presented to us with history of recurrent abdominal pain. After evaluation it was diagnosed as adenocarcinoma arising from junction of third and fourth part of duodenum without any genetic syndromes or inflammatory disease.

CASE REPORT

A 22 year gentleman presented with complaints of multiple episode of non-projectile, bilious vomiting for two months and insidious onset, dull pain in upper central abdomen for one month with history of weight loss of about 6 kg in a month. No other significant family or past history was present. On per abdominal examination, an epigastric lump of size 4x5 cm was present which soft, non-tender and side to side mobile with both lateral and lower border palpable. The digital rectal examination and rest of systemic examination was normal. On investigations, CECT abdomen revealed gross dilation of stomach and duodenum with an irregular lobulated mildly enhancing soft tissue lesion of approximately 48x33x55 mm seen at third and fourth part of duodenum causing near complete luminal obliteration.
On Gastrodoudonoscopy an ulceroproliferative growth was present at third part of duodenum and scope could not be negotiable through fourth part. Histopathological examination showed a moderately differentiated adenocarcinoma. The CEA and CA 19.9 were normal.

Exploratory laparotomy with resection of involved small bowel (from D2, D3 junction till 10 cm distal to DJ junction) and infiltrated transverse colon was done with dudeno-jejunoscopy (side to side) and colo-colic anastomosis, gastrostomy, feeding jejunostomy right perianastomotic right pelvic drain was inserted. Operative finding was a 5×5 cm growth at dudeno-jejunal junction infiltrating into transverse colon. 2×2 cm lymph node was present at paraduodenal region and mesentery. There was no ascites. Liver and omentum were normal.

**DISCUSSION**

Most common site of adenocarcinoma in small bowel is duodenum with peak incidence in seventh decade of life. It can arise sporadically or can be associated with polyloid syndromes or inflammatory diseases. Those arising in association with syndromes or Crohn’s disease tends to occur at earlier age. But without such syndromes, occurrence in young age is very rare. The symptoms are vomiting, abdominal mass, pain, unexplained weight loss, hematemesis and obstructive jaundice. The diagnostic investigations are upper gastrointestinal endoscopy, CECT and barium study. Upper gastrointestinal endoscopy shows the location of the tumor and biopsies can be taken. CECT helps to confirm the anatomical location, operability and to rule out any metastasis. If you are suspecting any polyloid syndromes colonoscopy should be done. Tumors of the second part of duodenum typically require pancreatic-duodenedectomy because of proximity to pancreatic head, ampulla of vater and distal bile.

Conversely, tumors occurring in the first, third or fourth portion of the duodenum may be managed by either pancreaticoduodenectomy or segmental resection. Cloyd et al, reported that radical resection was associated with a greater number of LNs excision but no improvement in survival. Although pancreaticoduodenectomy is usually required for technical reasons, in some situations, the study suggests that segmental resection is an appropriate strategy as long as negative margins can be obtained. Adjuvant chemotherapy and radiation are important components of treatment for patients at high recurrence risk. The five year survival rate varies widely according to different series published, but is generally reported to be >40% in case of curative resection. Poor prognostic factors include regional lymph node metastasis, transmural involvement and perineural invasion.

**CONCLUSION**

Duodenal adenocarcinoma is a very rare cancer and generally diagnosed at an older age. Current case of 22 year old gentleman is probably the youngest age reported without any important risk factors and managed with surgical resection and chemotherapy as per NCCN guidelines.

**Funding:** No funding sources

**Conflict of interest:** None declared

**Ethical approval:** Not required

**REFERENCES**

1. Overman MJ, Hu CY, Kopetz S, Abbruzzese JL, Wolff RA, Chang GJ. A population-based comparison of adenocarcinoma of the large and small intestine: insights into a rare disease. Ann Surg Oncol. 2012;19:1439-45.
2. Negri E, Bosetti C, La Vecchia C, Fioretti F, Conti E, Franceschi S. Risk factors for adenocarcinoma of the small intestine. Int J Cancer. 1999;82:171-4.
3. Ross RK, Hartnett NM, Bernstein L, Henderson BE. Epidemiology of adenocarcinomas of the small intestine: is bile a small bowel carcinogen?. Br J Cancer. 1991;63:143-5.
4. Yao T, Ida M, Ohsato K, Watanabe H, Omae T. Duodenal lesions in familial polyposis of the colon. Gastroenterol. 1977;73:1086-92.
5. Midhun. PG, Satheesan B, Dipin J, Ankalakotti B. Rare presentation of duodenal adenocarcinoma in a young adult - a case report. Int J Adv Res. 2017;5:1342-5.
6. Rotman N, Pezet D, Fagniez P L, Cherqui D, Celicout B and Lointier P. Adenocarcinoma of the duodenum: factors influencing survival. Br J Surg. 1994;81:83-5.
7. Cloyd JM, Norton JA, Visser BC, Poultsides GA. Does the extent of resection impact survival for duodenal adenocarcinoma?. Analysis of 1,611 cases. Ann Surg Oncol. 2015;22:573-80.

Cite this article as: Parmar P, Ali S, Lal R, Borgharia S, Andley M, Saurabh G. Duodenal adenocarcinoma: a rare cause of intestinal obstruction in young adult. Int Surg J 2021;8:1030-2.