Coexisting Tuberculosis And Mucinous Carcinoma Of Caecum – A Case Report

Dr Sushama Desai*, Dr Sunil Jagtap⁺, Dr Hemant Janugade[#]

MJAFI 2005; 61 : 197-199

Key Words : Mucinous carcinoma; Intestinal tuberculosis

Introduction

Coexistence of mucinous carcinoma with caseating tuberculosis of the caecum is very rare [1]. World literature reports only sixty-one cases with co-existing tuberculosis and colonic carcinoma [2]. Ileocaecal tuberculosis is very common in India. However its association with carcinoma is extremely rare and very few cases are reported from Indian literature [3]. We report this case for its rarity, with our comments on their relationship and presentations.

Case Report

A 23-year-old female came with complaints of pain in the abdomen and vomiting since 8 days. She had pain in the abdomen of over earlier 6 months, which was more in the epigastric region. The pain was dull aching, continuous and had no aggravating or relieving factors. Investigations revealed Hb 11.8 gms%. TLC, DLC, Urine (RE), Blood sugar and Creatinine were within normal limits. Serum Na was 134 mEq/L and serum K was 3.5 mEq/L. Plain X-ray chest was normal. Plain X-ray of abdomen showed multiple fluid levels in the upper abdomen and USG of the abdomen showed mild ascites and distention of small bowel loops with air fluid inside. Both the investigations were suggestive of small bowel obstruction. Clinical diagnosis was acute on chronic intestinal obstruction.

Operative findings revealed approximately 100 c.c fluid in the peritoneal cavity. A hard mass was palpated which was obliterating the lumen of caecum. Multiple mesenteric lymph nodes were enlarged and firm. An ileo-caecal resection with ileo-ascending colon anastomosis was done. Post operative period was uneventful.

Gross examination:

The specimen consisted of 12.5 cm of terminal ileum. Caecum measuring 8 cm X 6 cm and 4 cm segment of ascending colon (Fig. 1). On opening, the caecum had an ulceroproliferative growth measuring 8 X 6 X 1.2 cm, which was infiltrating upto the serosa. The base of the ulcer was necrotic

and the margins were everted. Cut surface of the tumor showed a variegated appearance with areas of haemorrhage, necrosis, calcification and large areas of mucoid material. A total of 26 lymph nodes were identified from mesentery, the largest measuring 2.2 X 1.2 cm X 1 cm.

Microscopy:

Sections from the growth showed a tumor composed of a few neoplastic cells arranged in glandular pattern along with large pools of extra cellular mucin. The cells were round, to columnar with hyperchromatic nuclei & scanty to moderate amount of eosinophilic to vacuolated cytoplasm. Signet ring shaped cells with intracellular mucin were also seen. Lakes of mucin, with a few entrapped neoplastic cells were seen dissecting along the planes of the muscle tissue of the muscularis propria and reaching upto the serosa. 90% of the tumor area showed a similar histology. Large areas of calcification were noted in the mucus pools. In the area adjacent to the tumor elements, foci of tuberculous infection were seen in the form of epithelioid cell granulomas containing Langhan's giant cells along with areas of caseation necrosis. Lymphocytes were present around the granuloma (Fig. 2). Sections from all the 26 lymph nodes were taken. None of them showed metastasis however 20 out of 26 lymph nodes showed caseating tuberculosis. Staining with 20% A.F. stain revealed a few acid-fast bacilli in the areas of granulomatous inflammation.

A diagnosis of mucinous carcinoma of caecum with caseating tuberculosis of caecum and mesenteric lymph nodes was made.

Discussion

As regards the distribution of adenocarcinoma of the large intestine is concerned approximately 65% occur in the rectosigmoid area, 5% in the caecum and the rest are distributed in other areas of the colon [4]. In the caecum, bulky exophytic type of growth is frequent and the intraluminal component is more voluminous than the intramural component. Our case also had an ulceroproliferative growth.

*Professor & Head, ⁺Lecturer, Department of Pathology, [#]Lecturer, Department of Surgery, KIMS, Karad 415 110

Received : 12.04.2002; Accepted : 26.08.2004

Fig. 1 : Gross specimen to show ulceroinfiltrative growth and mucinous appearance - Caecum and caseating lymph node

proliferative growth in the caecum [4]. Ten percent of the colonic adenocarcinomas are of the mucinous nature. The term “mucinous” is applied to those cases, which secrete a substantial amount of extracellular mucus (>50% of tumor area), which is easily appreciated, on gross inspection of the cut surface of the tumor [5]. Our case too had an appreciable component of mucinous areas on gross inspection of the cut surface of the tumor.

Microscopically the definition of mucinous carcinoma is variable. Some authors state that at least 50% of the lesion must be “mucinous” where as others claim that at least 75% of the lesion must be “mucinous”. By either of these definitions our case was definitely a mucinous carcinoma [6]. A significant amount of mucin production is associated with a worse prognosis because the pockets of mucin can mechanically dissect along the planes of the bowel wall thus facilitating the spread of malignancy [7]. Colo-rectal adenocarcinomas occurring in the first three decades of life have a propensity to be of the mucinous type [4]. The age of our patient was 23 years. Calcification and ossification of carcinoma of the large intestine are very rare. They can occur in the metastatic deposits as well as in the primary growth. There is no evidence that the presence of ossification or calcification affects prognosis although it seems to be more commonly seen in colo-rectal carcinomas among the younger age groups. Our case showed areas of calcification in lakes of mucin and the patient was a young female [8]. We did not grade this tumor because assessment of the grade of differentiation is difficult when malignant epithelium is disrupted by mucus [5]. Mucinous carcinomas present clinically at a more advanced stage of the disease, have a more extensive perirectal spread, show a greater incidence of lymph node involvement and tend to have an overall prognosis [6]. Our patient presented with intestinal obstruction at a fairly early clinical stage (stage 1) of carcinoma because of the coexistent tuberculosis and thus may have a better overall prognosis.

Fig. 2 : Microphotograph to show mucinous carcinoma and tuberculous granuloma (H & E 400)

Gastro-intestinal tuberculosis is commoner among the young adults and there is also a slight female preponderance [9]. Our case too was a young female. Intestinal tuberculosis can occur in three forms, primary, secondary and the hyperplastic caecal tuberculosis [10]. Grossly the caecum and / or ascending colon are thick walled and show mucosal ulceration. The wall is thickened because of the granulomatous reaction and the ensuing fibrosis. The gut lumen is narrowed and the mucosa is ulcerated along with pseudo-polyp formation [11]. Our case had the hyperplastic form of ileo-caecal tuberculosis along with regional lymphadenitis.

Wherever two different pathologic lesions are associated closely, the aetiological relationship between the two diseases is a matter of debate. Co-existence of tuberculosis and carcinoma in the colon may be simply a coincidence or one disease process might have initiated the other [1]. We believe that it is a coincidence, because compared to the high incidence of abdominal tuberculosis in India, the cases of co-existing tuberculosis and colonic carcinoma are very few. In a large number of reports in the literature of the co-existing tuberculosis and colonic carcinoma, the malignant lesion is merely described as a cancer or carcinoma without specifying the precise histopathological type [1]. Tanaka et al analyzed 26 cases of co-existing tuberculosis and colonic carcinoma and reported that a) Females predominated by a ratio of 17.9 in such cases b) The tumor was found in the right side of the colon in 17 out of 26 cases c) The tumor showed a well differentiated adenocarcinoma with a tendency to produce mucin [12]. Our case too mirrors all the above three findings. In a subsequent study Jain B.K et al [1] have specified the term of “mucinous carcinoma”. Out of the 4 cases reported by them the tumor involved the right colon in 3 cases and the distal transverse colon in the 4th case. The 2 lesions co-existed at the same site in two of their cases. Mucinous carcinoma was the histopathological diagnosis offered

in three of their cases however only in one case did the mucinous carcinoma and tuberculosis co-exist in the caecum.

Using strict criteria we know of only one case reported from Indian literature, where both tuberculosis and mucinous carcinoma co-existed in the caecum. We feel that this association is a coincidence rather than an aetiological relationship. The prognosis of mucinous carcinoma may be better in these cases as they present at an early clinical stage due to the co-existent tuberculosis.

References

1. Jain BK, Chandra SS, Narsimhan R, Ananthkrishnan N, Mehta RB. Coexisting tuberculosis and carcinoma of the colon. *Aust N Z J Surg* 1991;61(11):828-31.
2. Issacs P, Zissis M. Colonic tuberculosis and adenocarcinoma an unusual presentation. *Eur J Gastroenterol Hepatol* 1997;9(9):913-5.
3. Maheshwari V, Alam K, Indu, Tyagi SP. Ileocaecal tuberculosis associated with adenocarcinoma of the caecum and colon. *J Indian Med Assoc* 1995;93(10):392-3.
4. Pascal RR, Fenoglio-Preiser Cm, Noffsinger AE. Neoplastic diseases of the small and large intestine. In: Silverberg SG editor. *Principles and practice of surgical pathology and cytopathology* 3rd ed. NY: Churchill livingstone, Inc 1997;1801-66.
5. Morson BC. Large intestine: Malignant epithelial tumors. In: morson BC, Dawson IM, Day D.W, Jass JR, Price AB, Williams GT editors. *Morson and Dawson's Gastrointestinal pathology*. 3rd ed. Oxford London : Blackwell scientific publication 1990;597-629.
6. Cooper HS. Intestinal neoplasms. In: Sternberg SS editor. *Diagnostic surgical pathology* 2nd ed. New York : Raven Press Ltd 1994;1371-417.
7. Deodhare SG. Pathology of Tumors In: Deodhare SG editor. *General pathology and pathology of systems*. 6th ed Mumbai : Popular prakashan Pvt. Ltd 2002;1678-880.
8. Jass JR. The large intestine In: Morson BC editor. *Symmers systemic pathology* vol 3. 3rd ed. NY : Churchill Livingstone 1987;313-95.
9. Morson BC. Small intestine: Inflammatory disorders. In: Morson BC, Dawson IM, Day DW, Jass JR, Price AB, Williams GT editors. *Morson's and Dawson's gastrointestinal pathology* 3rd ed. Oxford London: Blackwell Scientific Publication 1990;240-302.
10. Mohan H. Gastrointestinal tract. In: Mohan H, editor. *Text book of pathology*. 4th ed New Delhi: Jaypee brothers Medical publishers (P) ltd 2000;511-68.
11. Deodhare SG. Bacterial infections: tuberculosis. In: Deodhare SG editor. *General pathology and pathology of systems* 6th ed. Popular prakashan (P) Ltd 2002;1883-942.
12. Tanaka K, Kondo S, Hattori F. A case of colonic carcinoma associated with intestinal tuberculosis and an analysis of 26 cases reported in Japan, Gan-No-Rinsho 1987;33:1117-23.