Case Report

Atypical carcinoid tumour associated with celiac disease

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SUMMARY

Coeliac disease is common and its prevalence is greater than previous estimates. Small bowel Lymphoma and Adenocarcinoma are recognised complications of celiac disease. The association of carcinoid tumours with celiac disease is very rare. We present a case of atypical carcinoid tumour in a patient with celiac disease.

Key words: Coeliac disease, Carcinoid tumours, Goblet cell carcinoid

INTRODUCTION

The prevalence of Coeliac disease is much greater than previously thought as the symptomatic patients constitute only a minority. The prevalence of undiagnosed celiac was quoted to be about 1.3% in a recent study [1]. Small bowel lymphoma and adenocarcinoma are recognised complications of celiac disease. However, it translates into very small absolute lifetime risk of less than 1% since these tumours are rare[1]. Even though carcinoid tumours are the most common gastrointestinal neuroendocrine tumours their association with celiac disease is extremely rare and is limited to case reports.[2,3,4] We report a case of atypical carcinoid (Goblet cell carcinoid – GCC) in a patient of celiac disease who had refused to go on Gluten free diet.

Case Report

A 69 year old Caucasian lady was diagnosed to have celiac disease in 2002 when she presented with anaemia. She had Iron and vitamin B12 deficiency and had a T score of 3.04 SD below the mean on DEXA scan. The diagnosis was confirmed on positive serology for Endomysial and Tissue Transglutaminase antibodies and definitive histological changes on duodenal biopsy (Fig 1). She refused to go on Gluten free diet despite repeated counselling. Her past medical history included Asthma, Hypothyroidism diagnosed in 1991, and Oestrogen receptor positive carcinoma of right breast in 2000 for which she underwent lumpectomy and radiotherapy. She was on Tamoxifen for five years. Her medications included Thyroxine, salbutamol inhalers and 3 monthly injections of vitamin B12.

She presented to her primary care physician in August 2006 with central crampy abdominal pain of 4 weeks duration associated with loose stools up to ten times a day. There was no mucus or blood and she took paracetamol and codeine for her pain. Her appetite was poor and she had lost 3 kgs in weight. There was no pallor, clubbing or icterus. She was in sinus rhythm with normal blood pressure. The abdomen was distended with vague tenderness

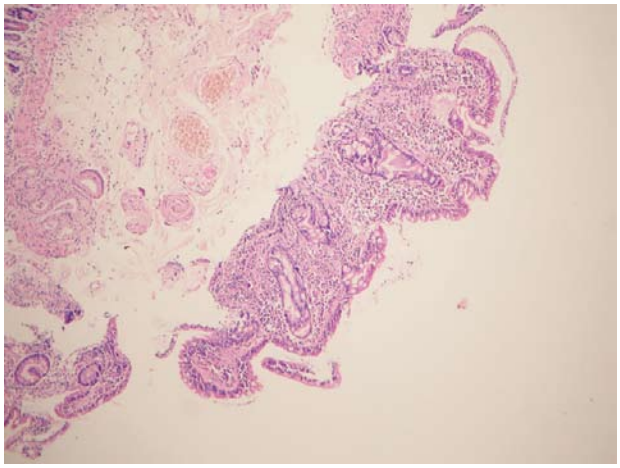

Figure 1. Duodenal biopsy showing villous atrophy

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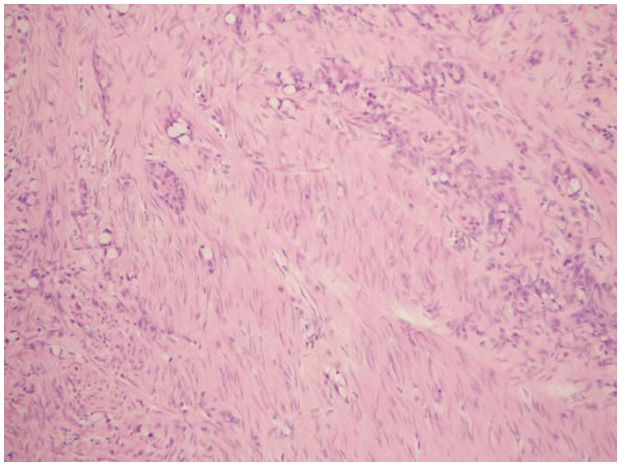

Figure 2. Goblet cell carcinoid infiltrating muscularis propria

but there was no guarding, rigidity or palpable mass. There were gurgling noises with exaggerated bowel sounds. Digital rectal examination was normal. Stool culture was negative for pathogens. Her routine investigations including haematocrit, urea and electrolytes, thyroid and liver function tests were essentially normal. An urgent barium follow through examination revealed distended small bowel loops suggesting obstruction at the distal small bowel. She developed clinical features of obstruction within the next 48 hours and underwent laparotomy when the obstruction was noted at the ileocaecal junction. She had a right hemicolectomy with appendectomy. She did well post operatively but sadly succumbed to recurrent metastatic breast cancer 6 months later.

Pathological findings

Resected specimen consisted of 80 mm of terminal ileum, 200 mm of caecum and ascending colon and 30 mm of appendix. Macroscopically no tumour was identified though the base of the appendix appeared thickened with thickening of the adjacent ileo caecal junction.

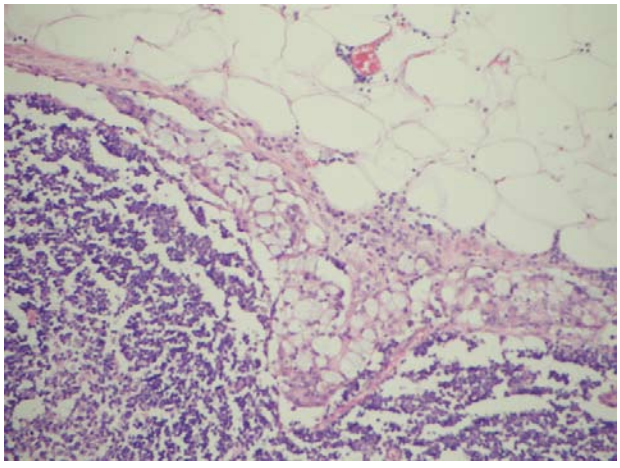

Figure 3. Infiltartion of the lymph node by the tumour

The appendix showed complete obliteration of the lumen by fibroadipose tissue infiltrated by small acini and nests of medium sized tumour cells containing pleomorphic nuclei with abundant, eosinophilic to clear cytoplasm. Some cells showed goblet cell phenotype (Fig2). Tumour cells extended transmurally and were demonstrated on the serosal aspect of appendix. The tumour was present within the caecum and terminal ileum. Malignant glands and nests were seen extending from the peritoneal aspects of these organs, infiltrating the muscularis propria. Tumour cells expressed CEA, cytokeratin 20, Synaptaphysin and Chromogranin. They were negative for BRST2, oestrogen, progesterone, CA125 and Cytokeratin 7. One out of the 14 lymph nodes retrieved contained metastatic tumour deposit (Fig3). The final diagnosis was Goblet cell carcinoid involving Appendix and extending into the terminal ileum and caecum. Excisional margins were clear of the tumour.

DISCUSSION

Carcinoid tumours are rare but are the most common neuroendocrine tumours. They are also the most common neoplasms arising from the appendix. In a recent study GCC was found in 13.8% of all appendicular malignancies[5]. Although GCC was previously considered a variant of carcinoid or atypical carcinoid, current evidence suggests that GCC is a distinct tumour with a histogenesis different from that of typical carcinoid. GCC is included under the general heading of mixed (composite) glandular endocrine cell carcinoma.[6] The diagnosis is almost always made post operatively. GCC should be distinguished from typical carcinoid as they could behave biologically like carcinoma. The distinction between GCC and conventional carcinoid is based on quantitative estimation of mucin production since typical carcinoids contain little mucin. In addition, GCC contains few APUD cells. As nearly 20% of GCC show metastatic behaviour and intraperitoneal seeding before lymph node involvement, appendectomy with completion right hemi colectomy is indicated in all cases with caecal involvement.[6]

The predisposition of celiac patients to small bowel lymphoma and adenocarcinoma is well established. However, the association of carcinoids and celiac disease is limited to a few case reports. Among 395 patients with primary small bowel malignancies diagnosed in the UK during

a 2 year period (including 175 adenocarcinomas and 107 lymphomas) 65 had celiac disease. There were 79 cases of carcinoids but all of them were among the non celiac patients.[7] Due to the paucity of numbers it is difficult to draw any definite conclusions about the association but our case has certainly added to the numbers. The fact that our patient had refused to go on Gluten free diet might have had some bearing on the outcome.

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