Primary Hodgkin's lymphoma of the caecum

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Extra-nodal Hodgkin's lymphoma (HL) represents 15% of all Hodgkin's lymphomas; the primary intestinal site accounts for 1% and with involvement of the ascending colon being rare.
We present the case of a patient of 62 years of age diagnosed as having acute appendicitis. Anatomopathology on the excised appendectomy tissue indicated nodular lymphocytic predominant Hodgkin's lymphoma (NLPHL). The morphology indicated isolated L&H (lymphocytic or histiocytic) cells or in groups, surrounded by T lymphocytes, in an environment of germinal centres together with phenomena that would be interpreted as progressive transformation. Immunohistochemistry staining of the HL cells were positive for CD45, CD20, Bcl6, EMA and MUM1 and negative for CD15 and CD30. No complementary treatment was administered.
Following a literature search, the present case would appear to be the first of its kind.

Key words: primary Hodgkin's lymphoma, caecum, NLPHL, appendicitis.

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INTRODUCTION

Nodular lymphocytic predominant Hodgkin's lymphoma (NLPHL) represents 5% of all Hodgkin's lymphomas (HL). The mean age of presentation is at 40 years and the ratio of males to females is 3:1. About 80% of the cases are diagnosed in early stages I-II in which supra-diaphragmatic ganglia involvement predominates. Over 90% of patients have a complete response to therapy, and 90% are alive at 10 years[1]. The primary extra-nodal disease and the primary sub-diaphragmatic localisation with the absence of adenopathies make the clinical diagnosis complicated[2].
Gastrointestinal involvement is an extremely rare event and might occur as infiltration from mesenteric lymph nodes. Primary Hodgkin's lymphoma of the gastrointestinal tract usually involves a single site[3].

CLINICAL CASE

A male patient of 62 years of age with a clinical history of hypertension and diabetes type II was hospitalised on April 11th 2004 because of acute abdominal pain of the right hemi-abdomen, with vomiting over the previous 12 hours. One month previously he had been evaluated for the same clinical characteristics. The exploration included physical examination, blood analyses (haemogram, electrolytes and chemistries),

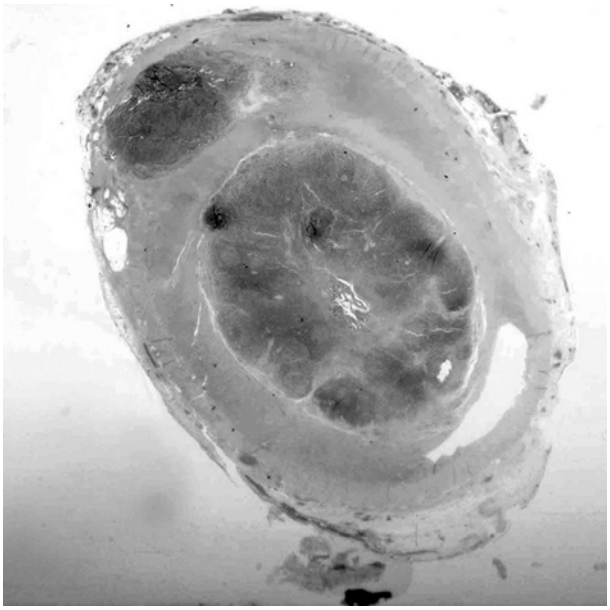

Fig. 1. Photograph of vermiform appendix with lymphoid proliferation (Hematoxilin and Eosin without magnification).

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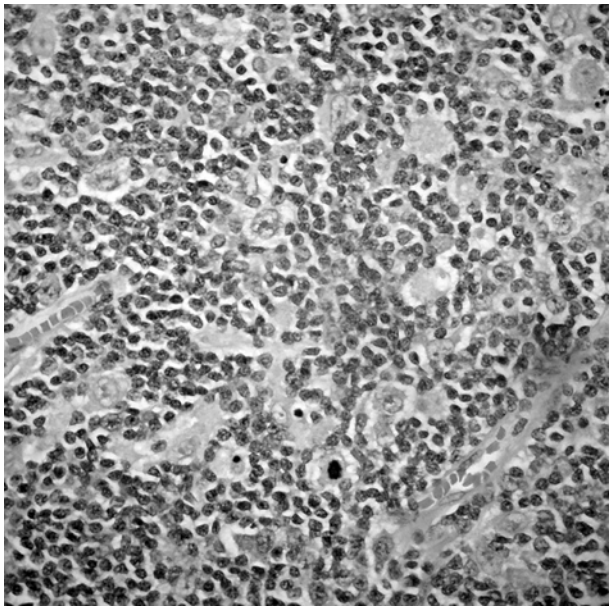

Fig. 2. Photomicrograph that shows linfoid proliferation with L&H cells (Hematoxilin and Eosin x 400).

abdominal echography, gastroscopy and complete colonoscopy, all of which were normal.

On admission to hospital the patient had pain on palpation in the right abdomen and positive Blumberg's sign. The haemogram showed moderate leukocytosis with left deviation. The abdominal echography was compatible with inflammation of the appendix. A laparotomy was performed and the finding was of acute retro-caecal appendicitis. An appendectomy was performed and anatomo-pathology revealed acute lesions of the appendix in addition to lymph node infiltration (fig. 1). There were HL cells in isolation or in groups surrounded by T lymphocytes in an environment of germinal cells with phenomena interpretable as progressive transformation (fig. 2). Immunohistochemical peroxidase staining (fig. 3) showed that L&H cells were positive for CD45 (fig. 3A), EMA (fig. 3C), CD20 (fig. 3D), Bcl6, OCT2, MUM1, Pax5, but negative for CD15 (fig. 3B), CD30, ALK, Bcl2 and surrounded by crowns of CD57+ cells. The HL cells also were kappa monoclonals and the molecular biology techniques using PCR showed polyclonal realignment of IGH (CDRII and CDRIII). The diagnosis was: appendicitis; nodular lymphocytic predominant Hodgkin's lymphoma (NLPHL). Complementary studies performed included analysis of lipids, blood chemistries, beta 2 microglobulin, whole body CT scan, PET and bone marrow biopsy, all of which were normal. There was no complementary treatment administered. At 12 months of follow-up the patient remains asymptomatic on physical examination, chest and abdomen CT scan, haemogram, blood chemistries and B2 levels.

DISCUSSION

Hodgkin's lymphoma is observed rarely in the colon. A review of the literature identified a description in 1972[4] of an HL involvement of the caecum in a pa-

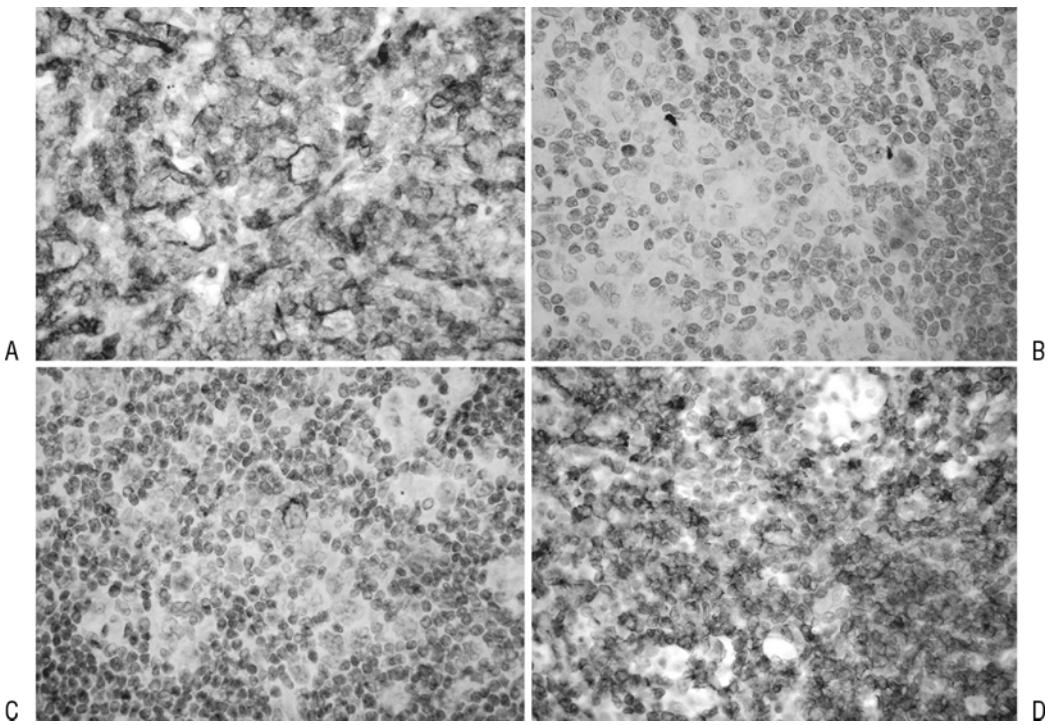

Fig. 3. Photomicrograph showing different immunohistochemical peroxidase staining of L&H cells: A) Positive CD45; B) Negative CD15; C) Positive EMA y D) Positive CD20.

tient diagnosed by node biopsy as having granuloma type HL stage III on the Jackson and Parker classification. Laparotomy to investigate the cause of melena showed large adenopathy conglomerations in the ileocaecal region and signs of lymphomatous infiltration of the ileum and contiguous appendix. The section from the right hemicolectomy showed HL ileocaecal infiltration and multiple bleeding ulcerations. According to the REAL/WHO classification[5], this constitutes a nodular sclerosis of Hodgkin's lymphoma (NSHL) stage IV, which is different from our patient who corresponds to NLPHL stage IE. Morphologically, NSHL shows a nodular pattern similar to that of NLPHL but with fibrous bands separating the nodules. The Reed-Stemberg (RS) cells of NLPHL dominate the HL cells (Lukes & Butler; lymphocytic or histiocytic types; also called «popcorn» cells because of the nucleus having the appearance of an exploted kernel of corn)[6] while the lacuna type RS cells are characteristic of NSHL. The tumour cells of NLPHL are positive for CD20, CD45, bcl-6, MUM1, OCT2 and Pax5 and negative for CD15 and CD30. The cells of NSHL are characterised by being positive for CD15 and CD30[7]. The diagnosis of NLPHL is based on the cellular morphology and immunohistochemistry stage which, in our case of morphological and immunohistochemistry findings, fulfils all the diagnostic criteria described in the literature.

The treatment-of-choice for initial-stage I-II NLPHL includes surgery, radiotherapy with/without chemotherapy, with cures of the order of 85% of the patients treated. The secondary effects are late-onset, and with death not related to the disease[8]. The literature description of an incidence of secondary NHL of 2%-3%[9] has persuaded some investigators to propose treating patients diagnosed as having initial-stage NLPHL exclusively with total resection of the tumour. Miettinen et al[10], in a series of 51 patients with NLPHL, treated 31 of them exclusively with tumour resection. With a median follow-up of 7 years, 7 patients had died in the non-treated group, 4 of whom from non-Hodgkin's lymphoma (NHL; as a secondary neoplasia) and 3 from other causes. This suggested the possibility of the patient developing NHL independently of the treatment administered. In our case, the patient was treated surgically alone and he remains disease-free 12 months later. Currently, the EORTC is adopting a watch-and-wait approach for patients with stage I supradiaphragmatic NLPHL following complete resection of the tumour; the involved field to be irradiated only if the disease progresses. Also, Rituximab[11] is being tested in the treatment of relapsed and refractory NLPHL.

To the best of our knowledge, the current report is the first adult patient with immunohistochemistry-confirmed primary NLPHL of the caecum.

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