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Polymorphic Reticulosis with Colonic Lesion

— A Case Report —

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A 38-year-old man was admitted with a high fever, sore throat, and right upper quadrant pain. Nine months before his admission, he had undergone right hemicolectomy under the impression of intestinal lymphoma. But there had been no evidence of lymphoma on microscopic examination. Under the postoperative diagnosis of inflammatory bowel disease, corticosteroid therapy was tried without response. On the follow-up colonoscopic examination, an ovoid ulcer, with convergence of the surrounding mucosal folds at the descending colon and an irregularly shaped ulcer at the ileocolic anastomotic site, were found. The colonoscopic diagnosis was Behcet's colitis. After pathologic slides of biopsy and surgical specimens obtained from the palatine tonsil and colon were reviewed, the diagnosis of polymorphic reticulosis was made. The patient received anticancer chemotherapy, including cyclophophamide and glucocorticosteroid. To date, colonic involvement of polymorphic reticulosis has not been reported. Because of the similarity of the colonoscopic findings to those of Behcet's colitis, polymorphic reticulosis should be included in the differential diagnosis of inflammatory bowel disease. We assume that this is the first case of polymorphic reticulosis involving the colon with characteristic colonoscopic findings.

Key Words: *Polymorphic reticulosis, Colonic involvement, Lymphoma, Behcet's colitis, Colonoscopic findings*

INTRODUCTION

Polymorphic reticulosis (PMR) is a rare lymphoproliferative lesion that predominantly affects midline facial structures such as the nasal cavity, paranasal sinuses, pharyngolarynx, palate, and oral cavity. The disorder forms a part of the spectrum of the midline granuloma syndrome that progressively destroyes midline facial structures. It is distinguished from nasal malignant lymphoma by its pathological features (Eichel et al., 1966; Fechner and Lamppin, 1972). Although PMR primarily involves midline facial structures, dissemination to other organs has been reported. The diseases of the lung, kidney, skin, retroperitoneum, central nervous system, liver, spleen, and gastrointestinal tract are seen in various proportions of patients (Kassel et al., 1969). In gastrointestinal tract, the involvement of the stomach, and jejunum have been reported (McDonald et al., 1976), but to our knowledge colonic involvement has not been reported. Therefore we present a case of PMR involving colon with a brief review of the literature about PMR.

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Case

A 38-year-old male patient was admitted to Seoul National University Hospital on January 30, 1990 because of high fever, sore throat, and right lower quadrant abdominal pain.

He had been well until one year prior to admission, when he had undergone an appendectomy because of fever and right lower quadrant pain, and sore throat. But the symptoms remained unresolved postoperatively.

Nine months before admission, he had undergone right hemicolectomy under the impression of intestinal lymphoma in a general hospital. At that time, only chronic inflammation was noticed without evidence of intestinal lymphoma in the surgical specimen. Postoperatively he had remained well for five months until he developed a high fever and sore throat. On the follow-up colonoscopy he was diagnosed as having inflammatory bowel disease and was given oral glucocorticosteroid and antibiotic therapy. But he continued to have a high fever, sore throat and mild lower abdominal pain with four episodes of melena.

On his admission to Seoul National University Hospital, the patient had a high fever with sweating, sore throat, and mild lower abdominal pain. Systemic review disclosed generalized weakness, a mild cough and sputum. He denied weight loss, skin rash, and orogenital ulcer.

His blood pressure was 130/90 mmHg, body temperature 39.8°C, pulse rate 110/min., and respiratory rate 20/min.

On physical examination, he was a chronically ill-looking, alert, slim man. A few telangiectatic lesions were found on the face. His conjunctiva was slightly pale and sclera was not icteric. On oropharyngeal examination, large, edematous, hypertrophied uvula and multiple, discrete ulcerations of the left tonsil, soft palate, and vallecula epiglottica were found. The nasal cavity, paranasal sinues, and eyeballs, including fundus, were normal. No lymph nodes were palpated. The lungs were clear, and the heart examination was not remarkable. The abdominal examination disclosed a previous operation scar and mile tenderness at right lower quadrant without rebound tenderness. The abdomen was soft and scaphoid. The bowel sound was normoactive. Digital rectal examination was free. There was no peripheral edema, skin rash, clubbing, arthritis, or bony tenderness. The genitalia were normal.

The hemoglobin was 9.0 g/dl, total white cell count 6500/mm^3, with 71% segmented neutrophils, 4% band forms, 23% lymphocytes, 1% monocytes, and 1% basophils. The platelet count was 241,000/mm^3, the erythrocyte sedimentation rate was 35 mm/hour, and C-reactive protein was 6+. The prothrombin time was 67% of control and the activated partial thromboplastin time was 28 seconds. The urine analysis, liver function tests and SMA-6 were normal. The uric acid was 3.3 mg/dl, the calcium 8.6 mg/dl, the phosphorus 2.9 mg/dl, the lactic deydrogenase (LDH) 753 IU/l (normal range: 100-225), the serum amylase 58 U/dl (normal range: 60-180). The serum alpha-fetoprotein was less than 5 ng/ml, the serum carcinoembryonic antigen 1.1 ng/ml. The stool occult blood was positive on Jan. 30, 1990 but was converted to negative test on Feb. 1, 1990. The VDRL test, a serologic test for syphilis, was negative. The fluorescent antinuclear antibody test was negative. Repeated cultures of blood, sputum, and stool yielded no growth of microorganisms. Microscopic examinations of three sputum specimens were negative for acid-fast bacilli. The serum immunoelectrophoresis showed nonspecific polyclonal gammopathy.

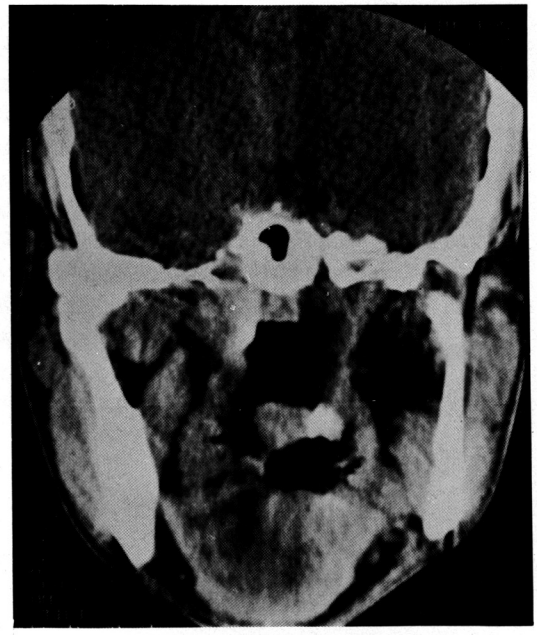

Fig. 1. Suspicious ulcers with air pockets on the left tonsil are seen without mass or bony destruction.

The chest X-ray, electrocardiogram, and pulmonary function tests were normal. A computed tomographic scan of the face (Fig. 1) showed suspicious ulcers on the left tonsil and a small amount of effusion in the left maxillary sinus without evidence of bony destruction or tumor. Ultrasonographic findings of the abdomen were normal. A barium study of the colon

confirmed an ileocolostomy state without remarkable abnormalities. Gastrofiberscopy showed chronic superficial gastritis and erosive duodenitis.

On colonoscopic examination, there was a 3x2cm-sized, well demarcated, ovoid ulcer crater with convergence of the surrounding mucosal folds at the descending colon of 50 cm from the anal verge (Fig. 2). Another large irregularly-shaped deep ulcerateive lesion with a nodular margin and surrounding mucosal edema was found at the anastomotic area,

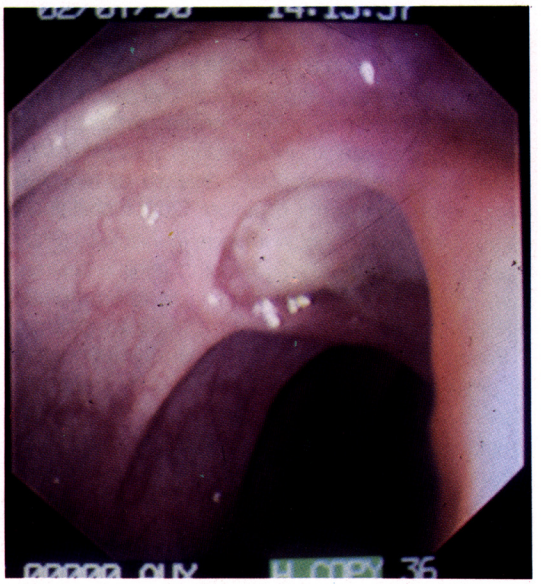

Fig. 2. An ovoid ulcer crater with convergence of the surrounding mucosal folds at the descending colon.

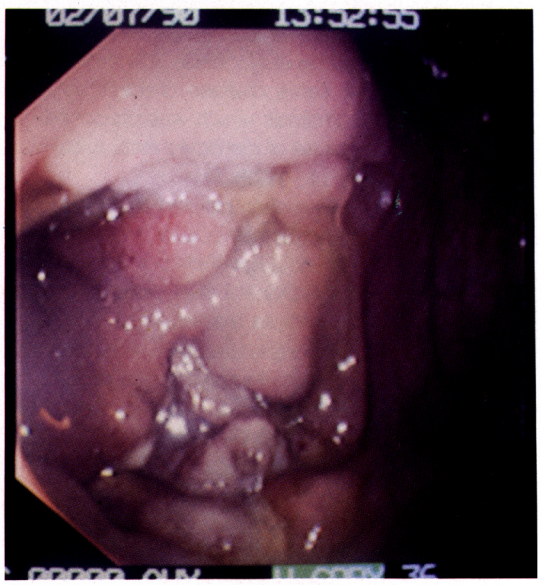

Fig. 3. A large, irregularly-shaped ulcerative lesion with nodular margin at the ileocolic anastomotic site.

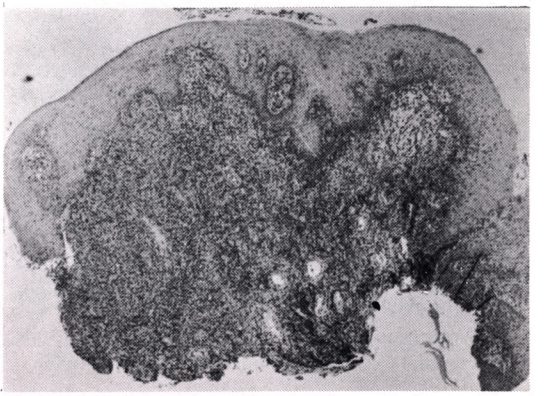

Fig. 4. The section of oropharynx shows heavy and diffuse cellular infiltration with focal vascular prominence (H & E, ×40).

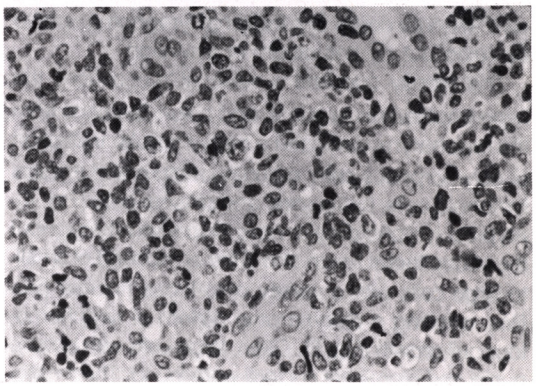

Fig. 5. High-power view of fig. 4. Notice dense collections of histiocytes. Some cells have bizzare nuclei with gooving (H & E, ×400).

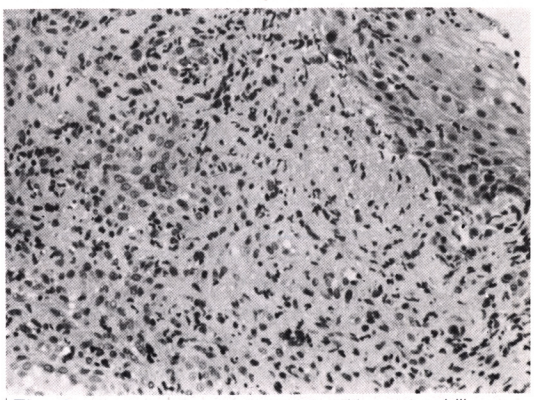

Fig. 6. Focal amorphous necrosis with neutrophilic reaction is noted just beneath the squamous mucosa (H & E, ×200).

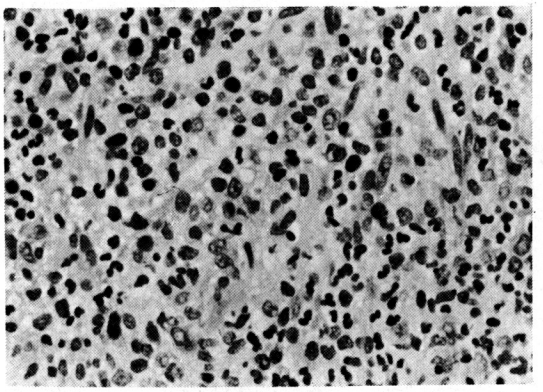

Fig. 7. Infiltrating cells in the colonic mucosa are essentially same with those in the oropharynx (H & E, ×400).

90 cm from the anal verge (Fig. 3). Colonic mucosa outside of the lesions was normal. Considering the above colonoscopic findings, the most likely diagnosis was Behcet's colitis, but intestinal lymphoma should be ruled out by pathologic examination.

The biopsy specimens were obtained from the hypertrophied uvula, tonsil, and colon. Sections from the oropharynx disclosed a heavy cellular infiltration of polymorphous cells, including mature and atypical lymphoid cells, histiocytes, and plasma cells (Fig. 4). Atypical lymphoid cells were dispersed throughout the subepithelial tissue and were composed of small-to-large cells with a variety of tortuous nuclear profiles, exibiting a pleomorphic pattern of lymphomatous cell growth (Fig. 5). Often, large cells with bizzare nuclei and prominent nucleoli were found. The smaller cells, the main constituent of the diffuse lymphomatous infiltrates, had irregularly distorted hyperchromatic nuclei. Intravascular exudation and thrombosis were present with focal amorphous nectrotic area and a few polymorphonuclear leukocytes. Coagulation necrosis was rarely seen (Fig. 6).

In the colon, essentially the same infiltrates replaced the mucosa and submucosa (Fig. 7), but scanty infiltrates appeared in the lamina propria of the adjacent intact mucosa. In areas, mucosal ulceration and underlying granulation tissue formation were covered by detritic tissue in which degenerating cells of the same nature were included.

During the hospital course, he experienced an episode of melena requiring a transfusion of four units of packed red cells due to uvular bleeding inadvertently caused by vigorous examination of the uvula. During the 16 days of hospitalization, the patient had persistent fever around 39°C with 1-2 peaks per day despite the administration of 60 mg/day of oral prednisolone in 3-4 divided doses. After trial of oral prednisolone, he received anticancer chemotherapy, including cyclophosphamide, adriamycin, vincristine, and prednisolone uneventfully and then was discharged without complete defervescence.

DISCUSSION

Since its first report by McBride in 1896, lethal midline granuloma has been a clinical and pathological enigma described as various entities ranging from a kind of granulomatous inflammation or systemic vasculitis to an atypical neoplastic disease, as reflected by numerous synonyms, (Burston, 1959; Eichel et al., 1968). It is now thought to include four entities (Pickens and Modica, 1989): 1) idiopathic midline destructive disease, 2) Wegener's granulomatoses, 3)Polymorphic reticulosis, and 4) nasal lymphoma.

Polymorphic reticulosis (PMR) is a lymphoreticular proliferative disorder which is clinically characterized by destruction and ulceration of midfacial structures. The principal local clinical features of PMR comprise nasal obstruction, discharge, and pain of oropharynx, paranasal sinuses, and nose, which frequently lead to misdiagnosis of PMR as chronic sinusitis. Sometimes systemic symptoms such as fever, weight loss, and general weakness may be primary features of the PMR with or without the local symptoms. PMR is not a localized disease of the midface but a systemic disease which can be disseminated to other organs (Kassel et al., 1969). It is now considered to have the same disease process as lymphomatoid rganulomatosis which was proposed by Liebow in 1972 because of identical pathological features (DeRemee et al., 1978).

Pathologically, PMR is characterized by polymorphic and atypical lymphoreticular cellular infiltrate which has a predilection for an angiocentric or angioinfiltrative growth pattern (McDonald et al., 1976: Batsakis, 1982). Polymorphic infiltrate distinguishes the lesion from the Wegener's granulomatosis and typically monomorphic non-Hodgekin's lymphoma, but only imperfectly from the mixed histiocytic-lymphocytic and histiocytic lymphomas (Batsakis, 1982).

Because of severe inflammation and necrosis, an adequate technique of biopsy is required and frequently, repeated biopsy is recommended.

The nature of the proliferating cells in PMR has been variably reported as being B cell, T cell or true histiocyte (Yamamura et al., 1986). Many immunohistochemical studies and the study of the DNA rear-

rangement of the beta T cell receptor gene showed that PMR is a T cell clonal process (Yamanaka et al. 1985; Chan et al., 1978; Gaulard et al., 1988). But based on the study of the rearrangement of the immunoglobulin genes, PMR may be considered a malignant lymphoma of B cell lineage (Lin et al., 1989). The morphologic resemblance to mycosis fungoides was commented on by Spear and Walker (Kassel et al., 1969).

Local radiation therpy is the choice of treatment in the localized form of PMR confined to the face (McDonald et al., 1976; Halperin et al., 1983). When the disease is presented with widespread dissemination, chemotherapy, including cyclophosphamide and corticosteroid, has been employed with various results (DeRamee et al., 1978; Fauci et al., 1982).

PMR has been considered a lymphoreticular disorder closely linked to malignant lymphoma because its similarity to the pathologic findings of lymphoma, the fact that it ultimately progresses to malignant lymphoma (Fauci et al., 1982; Fu et al., 1979), and its positive response to radiation therapy (7).

Recently, the results of immunohistochemical and gene rearrangement studies support the close association between PMR and malignant lymphoma. Therefore, in the selection of treatment modalities, the need for therapeutic trials that will control this aggressive, potentially fatal, lymphoproliferative process should be recognized.

In our case, the typical pathologic features which are identical in all three specimens from tonsil and uvula, colonoscopic biopsy, and resected colon during the previous operation, confirmed the final diagnosis of PMR. But as presented in this case, the accurate diagnosis and treatment may be delayed despite exploratory laparotomy, and misdiagnosis as an inflammatory bowel disease may occur because of the similarity of colonoscopic findings. Therefore, when the patient is presented with ulcerative lesions on the colonoscopic examination and systemic symptoms such as fever and weight loss, the possibility of PMR should be included in the category of differential diagnosis.

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