Retroperitoneal fibrosis associated with scirrhous gastric cancer

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Summary: A case of retroperitoneal fibrosis associated with scirrhous gastric cancer is reported. A sixty-two-year-old Japanese female was admitted because of acute renal failure. The patient’s serum creatinine level showed 3.2 mg/dl while the blood urea nitrogen level was 23 mg/dl. An ultrasound study of the upper abdomen revealed bilateral hydronephrosis. Drip infusion pyelography revealed a dilated right renal pelvis without ureteral obstruction. The left kidney was not opacified, suggesting a functional disorder. Gastrography and gastrofiberscopy revealed scirrhous gastric cancer. Signet ring cell carcinoma was later demonstrated histologically by biopsy specimens. CT demonstrated a prominent thickening of the gastric wall and hydronephrosis, although no prevertebral soft tissue masses were observed. A total gastrectomy was performed with failure to surgically decompress the ureters because fibrous plaque had firmly enveloped the retroperitoneal structures. Biopsy specimens of the retroperitoneum revealed an invasion of the tumor cells and prominent fibrosis. As an etiology of renal failure, ureteral stenosis resulting from secondary retroperitoneal fibrosis was also considered. Gastroenterol Jpn 1993;28:699-705.

Key words: Retroperitoneal fibrosis; Scirrhous gastric cancer.

Introduction

Retroperitoneal fibrosis (RPF) is a well-accepted clinical syndrome which implies a progressive fibrotic proliferation of retroperitoneal structures, especially the ureters, blood vessels and nerves. Generally, RPF is divided into two groups; idiopathic RPF and secondary RPF. Secondary RPF occurs following various types of abdominal surgery, urinary tract infection, ulcerative colitis, aortic aneurysm, radiotherapy, drug ingestion (methysergide, ergotamine, atenolol, phenacetin, or methyldopa), vasculitis (Weber-Christian, pan- niculitis, mesenteric panniculitis), and malignancy.24 Furthermore, secondary RPF is divided into two subgroups; malignant RPF and non-malignant RPF. Malignant RPF has been reported to be due to various types of cancer including cancer of the breast, stomach, prostate, lung, cervix uteri, colon, pancreas, ovary and even Hodgkin’s disease.5-7

The progress of RPF usually causes bilateral ureteral stenosis and eventually renal failure. Bilateral hydronephrosis is often preceded by the symptoms of a primary malignant tumor. Therefore, in the case of hydronephrosis of an unknown origin the presence of occult cancer should be suspected as a possible complication. We herein present a case of RPF in which a urinary tract infection and bilateral hydronephrosis were found prior to gastric cancer.
Case Report

A 62-year-old Japanese female was referred to Hamanomachi General Hospital in August, 1992, because of acute renal failure. One month previously she had been admitted to Sawara Hospital because of a high fever and lumbago. A high number of white blood cells were seen in the urinary sediments. The serum CRP concentration was elevated to 18.1 mg/dl, while the peripheral white blood cell count was 12,400/μl, and the erythrocyte sedimentation rate was 47 mm/hr. A urinary culture disclosed an *Escherichia coli* infection and the antibiotic (cefodizim) was started. The high fever and lumbago disappeared immediately. However, the serum creatinine and blood urea nitrogen (BUN) levels gradually increased.

Ultrasonography (US) revealed bilateral hydronephrosis, but no tumor-like lesion was detected in the retroperitoneum by US, computed tomography (CT) and magnetic resonance imaging. Continuous drip infusion-pyelography revealed a dilated right renal pelvis. However, the left kidney was not opacified (Figure 1). Since the patient had experienced dysphagia for some three months, gastrography was performed to reveal gastric cancer invading from the lower esophagus to the duodenum (Figure 2). Gastrofiberscopy demonstrated an open ulcer in the anterior upper wall of the gastric body with thickened folds and poor expansion (Figure 3). A biopsy of the ulcerative margin revealed signet-ring cell carcinoma.

On admission to Hamanomachi General Hospital the patient's temperature was 36.6°C, pulse rate 64 beats/min, respiratory rate 16 times/min and blood pressure 154/82 mmHg. Her height was 148.8 cm, and weight 60 kg. No superficial lym-