

# Inflammatory Myopathy as Early Manifestation of Gastric Cancer

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## Abstract

Inflammatory myopathy is a paraneoplastic syndrome. Inflammatory myopathy may be the first manifestation of underlying malignancy. It was reported in patients with colon cancer, breast cancer, ovarian cancer, lung cancer and non-Hodgkin lymphoma. There are few reports regarding inflammatory myopathy in patients with gastric cancer. We want to present inflammatory myopathy as early manifestation of gastric cancer in a 65 y/o Asian male.

**Key words:** Gastric cancer, inflammatory myopathy, paraneoplastic syndrome

## Introduction

Inflammatory myopathy is reported as a paraneoplastic syndrome in patients with cancer. The exact mechanism for association between cancer and inflammatory myopathy is not understood clearly.(1, 3) The regenerated cells in myositis present high level of auto antigens which are specific to myositis,(2) and express in higher level in some cancers that lead to auto-antibody formation and inflammatory myopathy.(1, 3)

In 1916 coexistence of gastric cancer and polymyositis and possible association between cancer and inflammatory myopathy was reported.(4) The association between cancer and inflammatory myositis is higher in dermatomyositis (DM) in comparison to polymyositis (PM).(5) There was a case report regarding association between erythrodermic dermatomyositis and gastric cancer.(6)

In a Korean study included 41 patients with inflammatory myopathies (polymyositis and dermatomyositis) underlying malignancy was diagnosed in 26.8% of patients.(7)

**Case report:** A 65 y/o male presented with weight loss and proximal muscle weakness since 5 months ago. Past medical history was positive for hypertension and uncontrolled diabetes mellitus. He was taking captopril for hypertension. Physical exam revealed pallor, proximal muscle weakness and serious muscle atrophy in both thighs and

hyporeflexia in upper and lower extremities. He had no evidences of diabetic retinopathy in retinoscopy.

Laboratory findings are included:

Hg= 11.3 g/dl

MCV= 86 fl

WBC= 10,400/ $\mu$ L

PLT= 229,000/ $\mu$ L

ESR= 37 mm/hour

AST= 214U/L

ALT= 339U/L

AlkPh= 154U/L

Lactate dehydrogenase (LDH)= 1900 IU/L

Creatine phosphokinase (CPK)= 8606 IU/L

Ca= 8.7mg/dl

Phosphore= 3.5mg/dl

FBS= 230mg/dl

Cr= 0.8mg/dl

BUN= 31mg/dl

CRP= positive(+3)

Aldolase= 12.8 U/L (normal: up to 7.6). EMG and NCV were suggestive for motor sensory polyneuropathies. RF was positive (+2). Serologic tests were negative for ANA, HBs Ag, HCV Ab, C-ANCA and P-ANCA. Thyroid function tests were normal.PSA titer was in normal range. Echocardiography was reported normally. Lumbosacral MRI showed diffuse disco-vertebral degeneration in all lumbar levels and spondylotic spinal canal stenosis.Skeletal muscle biopsy showed inflammatory myopathy. Abdomino-pelvic CT scan

was showed only a right-sided parapelvic cyst. Chest X ray was normal. Colonoscopy was normal. Upper GI Endoscopy showed an ulcer in gastric body and biopsy showed gastric cancer. He was underwent gastric surgery and then adjuvant chemotherapy.

In this 65 y/o male with inflammatory myopathy, further evaluation revealed gastric cancer. After gastrectomy adjuvant chemotherapy was started for him.

Initially, association between inflammatory myositis and malignancy was reported by Stertz G in 1916.(4) The exact mechanism was not understood clearly but it may be due to expression of common autoantigens between cancer tissues and muscle tissue in some patients with DM or PM which leads to auto-antibody formation.(1, 3) The association between inflammatory myopathy and cancer is higher in patients with DM rather than whom with PM.(5) The breast cancer was the most common type of cancer associated inflammatory myopathy in Korean patients.(7) European studies demonstrated that ovarian, pulmonary and gastrointestinal cancers were the most common types of cancer associated inflammatory myopathies.(8) We should consider underlying malignancy in all patients with inflammatory myositis especially in those with older ages, anorexia, weight loss and cachexia. Careful history taking and physical examination and cancer screening would be necessary in patients with inflammatory myopathies. As our experience inflammatory myopathy may be initial manifestation of underlying malignancy. We recommend a careful and oriented history taking, physical examination and malignancy work-up in old age patients with inflammatory myopathy. Cancer directed surgery and/or chemotherapy is

recommended as soon as possible in cancer related inflammatory myopathies.

**Conflicts of interests** are not declared by Authors.

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