Unusual presentation of more common disease/injury

Rapidly progressive myositis as the sole manifestation of a concurrent gastric carcinoma

Mehrnaz Asadi,¹ Maryam Javanbakht,¹ Sirin Khajavian,² Sara Zand²¹ Tehran University of Medical Sciences, Tehran, Islamic Republic of Iran² Emam Khomeini Hospital, Tehran, Islamic Republic of Iran

Correspondence to Mehrnaz Asadi, asadi_m@tums.ac.ir

Summary

Inflammatory myopathies including polymyositis and dermatomyositis are autoimmune disorders presenting with characteristic muscle weakness. These diseases, especially dermatomyositis, have a well-known association with a wide variety of neoplasms including lung, breast, ovary and colon cancers. Here we report the case of a 58-year-old man who presented with a 3-week history of myositis and was simultaneously diagnosed with gastric cancer.

BACKGROUND

Inflammatory myopathy encompasses a spectrum of disorders such as dermatomyositis, polymyositis and inclusion body myositis, and results from an overwhelming immune response principally targeting the muscular system. However, other organs may be involved during the course of the disease. Disease manifestations vary and include skin rash, myalgia, extremity weakness, dysphagia and respiratory failure. It may present as a primary disease or in association with other autoimmune disorders. All inflammatory myopathies may have a chance association with malignancy. However, there is a well-known association between dermatomyositis and malignant lesions, particularly ovarian cancer, breast cancer, melanoma, colon cancer and non-Hodgkin lymphoma.^{1–3} Here we report the case of a 58-year-old man who presented with a 3-week history of myositis and was simultaneously diagnosed with gastric cancer. We believe that reporting of such cases may be helpful to remind physicians to consider an occult neoplasm in a patient presenting with an inflammatory myopathy.

CASE PRESENTATION

A 58-year-old man presented with a 3-week history of progressive proximal muscle weakness of the limb girdles. The patient also complained of myalgia, dyspnoea and dysphagia. Periorbital oedema, facial erythema and the V sign were also noted on examination. He had lost 20 pounds within this period. Investigation revealed high creatine kinase values (>7000 UI/l; normal value <195 UI/l). Because of the history and the combination of mild anaemia, increased sedimentation rate and significantly elevated muscle injury biomarkers, an inflammatory myositis was suspected. Measures to prevent acute renal failure due to rhabdomyolysis and deep vein thrombosis were instituted. The patient underwent further evaluation to investigate the probable diagnosis.

INVESTIGATIONS

Myopathic changes were found on electromyography, and muscle biopsy of the quadriceps was consistent with inflammatory myositis. However, the patient's significant weight loss prompted us to reconsider our primary hypothesis of an idiopathic inflammatory myopathy.

As inflammatory myositis can be a paraneoplastic feature of neoplasms such as lung cancer, colon cancer and non-Hodgkin lymphoma, it was suggested that the patient might have an occult neoplasm. Screening for cancer including abdominal ultrasound and chest-x-ray was carried out. Abdominal ultrasound scan showed a hypo-echoic mass 80 cm $\times$ 38 cm in diameter within the stomach. On upper endoscopy, a large ulcerative mass was detected extending from the gastric fundus to the body along the great curvature. Histological evaluation of biopsies revealed the presence of a poorly differentiated carcinoma (figure 1). Abdominal CT scanning showed the tumour and lymph node enlargement in the gastrohepatic ligament (figure 2). After discussion with the patient and his family, he underwent surgery.

DIFFERENTIAL DIAGNOSIS

The differential diagnosis included idiopathic inflammatory myopathy, malignancy associated myositis and necrotising myositis.

TREATMENT

The patient received a high-dose steroid based regimen.

OUTCOME AND FOLLOW-UP

The patient is in full recovery after surgery and cancer targeted therapy is pending. His myositis is also in remission.

DISCUSSION

Inflammatory myopathies are a group of inflammatory disorders involving the skeletal muscles and include dermato-

Figure 1 (A,B) Photomicrographs of histopathology specimen obtained from the gastric mass showing neoplastic growth of malignant tumour cells with irregular nuclei in addition to scattered signet ring cells.

Figure 2 CT scan showing diffuse thickening of the gastric wall in the distal part of the body and antrum with hypodense areas, fat stranding in the adjacent omentum and lymph node enlargement in the gastrohepatic ligament.

myositis, polymyositis and inclusion body myositis. Dermatomyositis affects the skin and characteristic findings include Gottron's papules, per orbital oedema and heliotrope rash of the eyelids. It has a well-known association with malignant tumours, in particular lung, breast, ovary and gastrointestinal tumours and non-Hodgkin lymphoma. The occult neoplasm is usually detected 2 years after the onset of myositis.⁴ However, in our patient, the gastric tumour was detected only a few days after he had been evaluated for myositis. Unusually, he had no gastrointestinal related symptoms and the inflammatory myopathy was the first clinical manifestation of an occult poorly differentiated gastric carcinoma.

Myositis associated with malignancy behaves differently from idiopathic disease and may be resistant to immunosuppressive drugs. As a result, tumour resection and targeted cancer therapy are sometimes the only effective measures. Response depends on whether the myositis runs its course as a paraneoplastic disorder or progresses as an independent disease. In our case, our patient's symptoms responded significantly to prednisolone 1 mg/kg. It is not uncommon for an idiopathic inflammatory myopathy to recur after a lengthy quiescent period, an inherent feature of autoimmune disorders. However, myositis flare-up in a known cancer patient might herald tumour relapse.⁵⁻⁹

There are also recent reports of prostate cancer, bladder cancer and testicular tumours in association with myositis, so the role of increased physician awareness and improved diagnostic modalities cannot be overemphasised.^{10–12} As the underlying malignancy determines prognosis and influences treatment, it is strongly recommended that patients with inflammatory myopathy are investigated for an occult neoplasm; the value of cancer antigens such as 19-9 is still in doubt.^{3 13}

In conclusion, we believe this report may help to remind us to screen our patients thoroughly for underlying disease before diagnosing an idiopathic disorder.

Learning points

- ▶ Uncommon presentation of gastric cancer should be considered.
- ▶ An occult neoplasm should be considered in a patient presenting with myositis.
- ▶ The patient's clinical findings should be evaluated as a whole.

Competing interests None.

Patient consent Obtained.

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