Chronic periaortitis with retroperitoneal fibrosis successfully treated with first line tocilizumab monotherapy: a case report

Sir,

We would like to present a case of a 65-year-old man with chronic periaortitis successfully treated in monotherapy with first line anti-IL-6 tocilizumab.

Idiopathic retroperitoneal fibrosis is a rare syndrome defined by the development of fibro-sclerotic tissue in the retroperitoneum and around blood and lymphatic vessels (1), which could lead to obstruction and dysfunction of the involved structures. Currently, idiopathic retroperitoneal fibrosis is considered part of the spectrum of chronic periaortitis (CP), characterised by the inflammatory involvement of the aorta and its major branches (2, 3). There is evidence that treatment with glucocorticoids, sometimes associated with immunosuppressive agents, is effective in the majority of patients in lowering disease activity and preserve renal function (4-8). However, unmet need still remain for patients with contraindication/intolerance to steroid and/or immunosuppressive treatment. Herewith we present a case report of CP with retroperitoneal fibrosis successfully treated in monotherapy with first line anti-IL-6 (tocilizumab) therapy.

A 65-year-old man was admitted to our hospital on March 2016 with a history of occasional abdominal and low back pain associated with claudication in right leg in the past three months. Patients reported a history of hypertension, metabolic syndrome and ischaemic heart disease. Clinical assessment revealed only a slight bilaterally perimalleolar oedema and a reduction of dorsalis pedis artery and posterior tibial artery pulses. Ultrasonographic study of the legs was, however, normal. Serum sample revealed the presence of raised C-reactive protein (CRP) (12 mg/l). Contrast-enhanced abdominal computed tomography showed the presence of inflammatory periaortic and periiliac soft tissue density mass, extending from the sub-renal aorta to the common iliac arteries, consistent with CP. The inferior vena cava was occluded and incorporated in the fibrotic tissue. These alterations were extended to common iliac artery bilaterally with significant stenosis. Ureters were not involved. The MRI confirms the diagnosis of CP. The patient underwent to 18F-fluorodeoxyglucose–positron emission tomography (FDGPET)-CT scan that showed the presence of 18F-FDG uptake around the thoracic aorta, the abdominal aorta, the brachiocefalic trunk and the iliac arteries (Fig. 1). Immunological and infective screenings were negative. IgG4 levels were normal. Due to relative contraindication to prednisone treatment and in accord with the patients shared decision, anti-IL-6 therapy (tocilizumab 8 mg/kg administered intravenously every 4 weeks) was started.

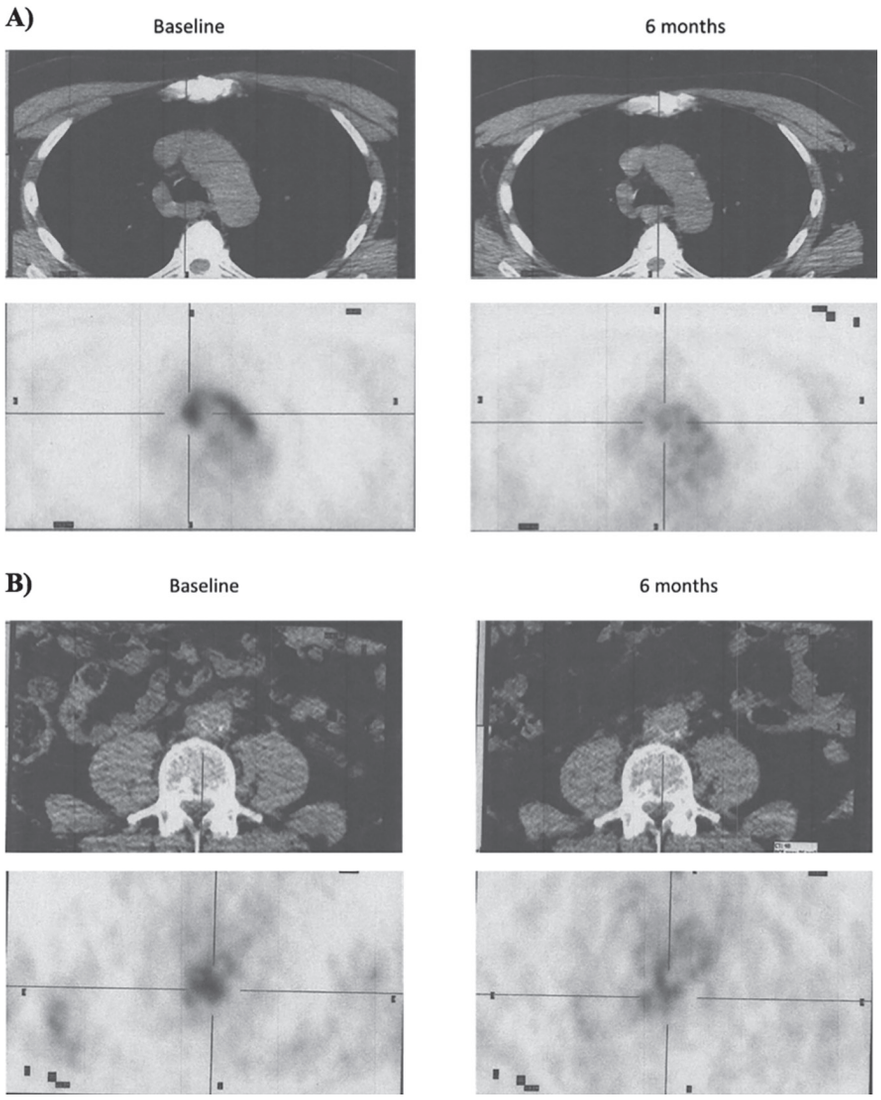

Fig. 1. 18F-fluorodeoxyglucose–positron emission tomography findings at baseline and after 6 months of tocilizumab therapy at aortic arch (A) and abdominal aorta (B).

After 1 months of therapy with tocilizumab, pain and claudication disappears. At control analysis, CRP was <2 mg/l. At 6 months, we observe sustained benefits with normalisation of inflammatory parameters and with the absence of symptoms and signs of the disease. No infections or other side effects occurred. At 6 months, FDGPET–CT showed a significant decrease in the 18F-FDG uptake (Fig. 1).

We know that the treatment of CP is largely based on the use of glucocorticoids, but there is an unmet need for alternative therapies, particularly for patients in which glucocorticoid-treatment is contraindicated for different reasons. To our knowledge, we present the second case successfully treated with first line anti-IL-6 inhibitor monotherapy, in the absence of steroids induction, suggesting that tocilizumab could be an alternative and effective treatment strategy as first line therapy. In fact, it has been demonstrated that serum IL-6 was significantly higher in CP patients than controls and IL-6 was abundantly expressed in biopsy specimens from CP patients, particularly by T cells, B cells, fibroblasts and vascular smooth muscle cells (8). IL-6 also induce fibrosis, another key feature of CP (8). In this scenario, a pathogenetic-driven treatment interfering with key cytokines could be useful. In conclusion, the clinical benefits observed in our case further suggest that IL-6 may contribute to disease pathogenesis. Our preliminary results, however, require validation in clinical trials.

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