Atypical Scleroderma-like Chronic GVHD in a Liver Transplant Patient, Clinical and MRI Correlations

Dear Editor,

cutaneous chronic graft versus host disease (cGVHD) is a pathological process consisting of donor-derived T-cells aimed at the antigens of the recipient. It exhibits a large range of clinical presentations resembling morphea and deep sclerosis/fasciitis, all characterized by both inflammation and progressive dermal and hypodermic fibrosis (1). Although classic scleroderma-like lesions in cGVHD are nummular or irregular plaques and linear bundles associated with hypo- or hyperpigmentation (2), we report an atypical case with ulcerative presentation. No other case-reports of morphea-like or scleroderma-like cGVHD with an ulcerated appearance after liver transplantation (LT) and magnetic resonance imaging (MRI) correlation have been found in the literature.

CASE REPORT

Ten months after LT due to an end-stage cirrhosis associated with multifocal hepatocarcinoma (HCC), a 61-year-old man on immunosuppressive therapy with Tacrolimus (1 mg) and Everolimus (10 mg) presented to our clinic for a skin lesion in the right scapular region. We observed a flat ulcerated plaque with areas of sclerosis, minimal necrosis, and well-defined slightly erythematous margins (Figure 1, a). On palpation, the plaque had a hard consistency and was slightly painful.

The skin lesion had been preceded by subjective discomfort with stinging sensation for seven months before its onset. Gradually lesion developed starting from a small, flat, oval purplish plaque associated with a progressive increase in pain.

Patient denied dysphagia, retrosternal heartburn, Raynaud's phenomenon, arthralgia, and dyspnea. A previous MRI (Figure 2, a,b) showed subcutaneous and muscle edema. Blood tests showed abnormal liver function indexes due to extrahepatic cholestasis, while C-reactive protein, erythrocyte sedimentation rate, and leukocytes were within normal ranges. Self-reactive antibodies were negative.

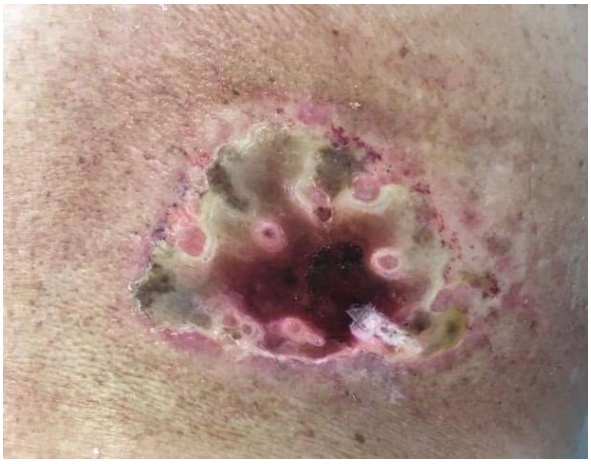

Fig. 1 a

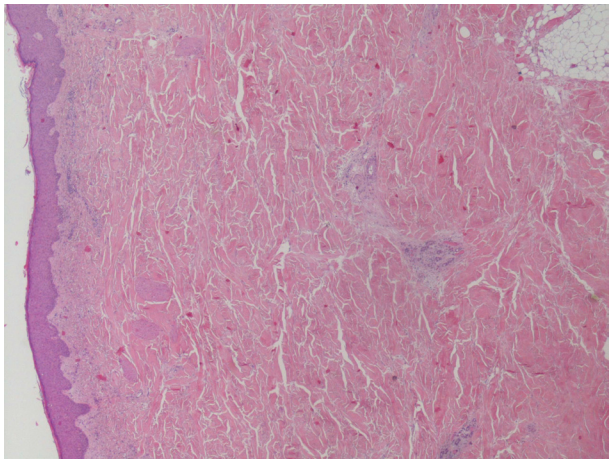

Fig. 1 b

Figure 1. (a) Flat ulcerated plaque with areas of sclerosis and minimal necrosis, with well-defined and slightly erythematous margins. (b) Histological examination: rare dyskeratotic keratinocytes and basal lymphocyte infiltrate, a dermal dense fibrosis with the disappearance of the skin appendages and large fibrous septa in the adipose panniculus. Hematoxylin-eosin, ×40.

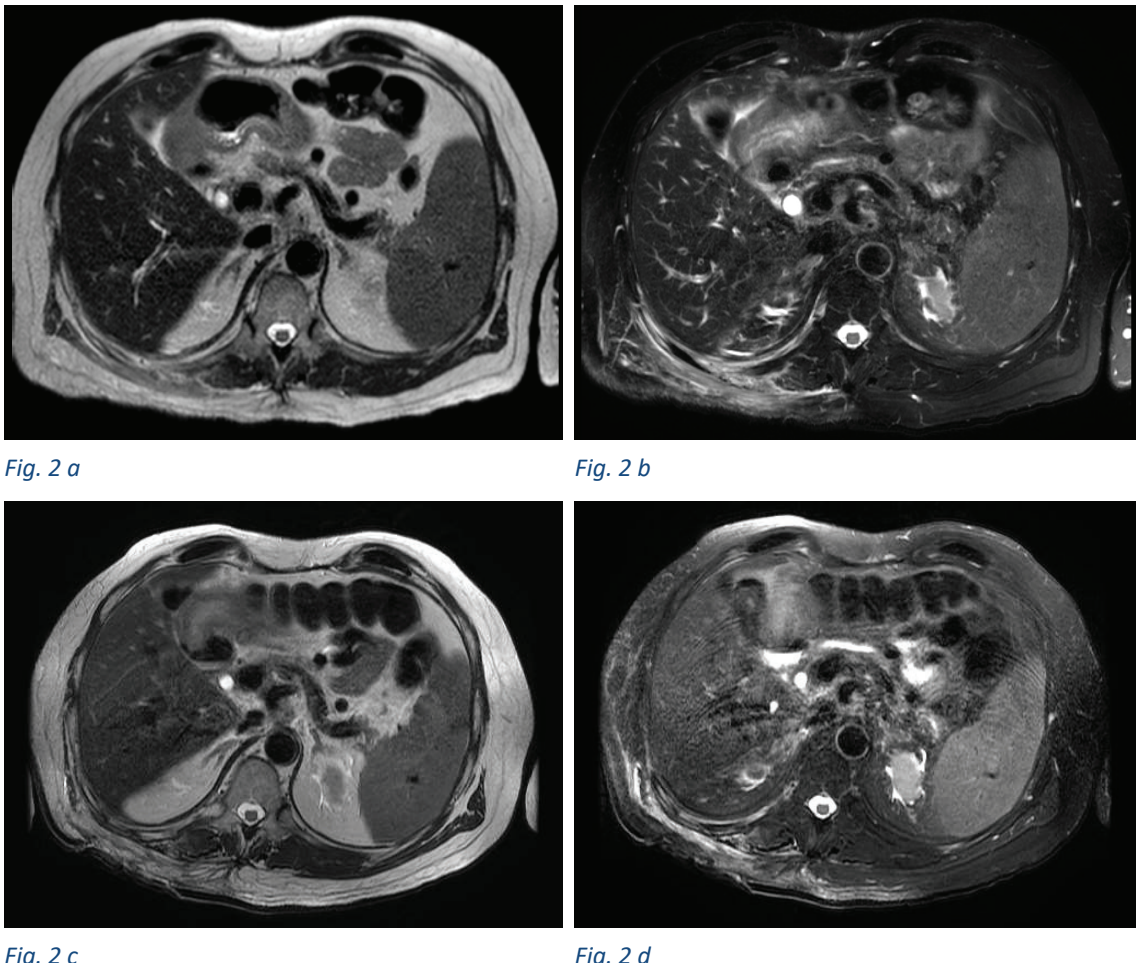

Fig. 2 a *Fig. 2 b*

Fig. 2 c *Fig. 2 d*

Figure 2. Axial T2-weighted (a) and fat-suppressed axial T2-weghted MRI, (b) performed seven months after transplantation, showed subcutaneous tissue and fascial and muscle edema. Axial T2-weighted (c) and fat-suppressed axial T2-weghted MRI (d), performed one year after transplantation, showed fibrous septa in the subcutaneous fat and fascial thickening, with associated muscle hypotrophy and edema.

Histological examination (Figure 1, b) identified rare dyskeratotic keratinocytes and basal lymphocyte infiltrate, a dermal dense fibrosis with the disappearance of the skin appendages, and large fibrous septa in the adipose panniculus. It led to the diagnosis of scleroderma/morphea, based on the patient's clinical history. The diagnosis of graft versus host disease scleroderma-like post liver transplant was established. The lesion was treated by topical application of 0.05% clobetasol once a day. We did not use systemic immunosuppressive therapy in order to prevent HCC recurrence. The patient is currently in clinical follow-up to identify worsening or neoplastic degeneration.

CASE DISCUSSION

Cutaneous cGVHD often presents clinically as an ulcerative evolution in the context of fibrosis and diffuse skin atrophy (2), but very rarely initially appears as a well-delimited ulcerated plaque.

Only few cases of ulcer have been found in literature, all in patients undergoing hematopoietic stem cell transplantation (HSCT), which is associated with the highest risk of developing GVHD, 20-50% (3,4), while LT has quite low incidence, at 0.5-2% (5). To our knowledge, this is the first case report of a scleroderma-like cGVHD lesion with ulcer appearance in LT.

Our patient underwent two MRIs during post-transplant follow-up, which allowed us to evaluate the deep disease evolution.

The T2-weighted MRI (Figure 2, c,d) performed approximately 1 year after transplantation, demonstrated fibrous septa in the subcutaneous fat and fascial thickening, with associated muscle hypotrophy and edema. The previous MRI, performed seven months after transplantation, already showed subcutaneous tissues and fascial edema, highlighting active inflammation. This evidence suggests that MRI could identify the lesion location before clinical manifestations, providing an opportunity to intervene promptly.

To the best of our knowledge, this is the first reported case of cGVHD with atypical scleroderma-like presentation in a liver transplant patient whose clinical and MRI correlations have been traced. Our suggestions are supported by the results of other previous studies (6,7) evaluating MRI performance for assessing disease extent and activity, as well as therapeutic response in HSCT.

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