

Temporomandibular joint involvement and reduced mouth opening in systemic sclerosis: a not interdependent relationship

Sirs,

Temporomandibular joint (TMJ) involvement in rheumatic diseases is often neglected. Temporomandibular symptoms and signs in immune-mediated rheumatic diseases are more frequent in juvenile idiopathic arthritis (30–93%) (1). Systemic sclerosis (SSc) is an autoimmune connective tissue disease, which involves the immune system and microcirculation, leading to fibrosis of the skin, subcutaneous tissue and internal organs. The musculoskeletal system is also affected (2-3). In SSc the mouth opening reduction could depend on joint inflammation, as in other rheumatic diseases, but also on tissue fibrosis which can involve skin, subcutaneous tissues and even articular and periarticular structures (4-6) (Fig. 1a). The main pathologic changes of TMJ may be detected by imaging techniques or directly by arthroscopy (5, 7, 8). In recent years minimally invasive surgery (MIS) as arthroscopic disc repositioning and arthroscopic condyle remodelling has been widely used in several pathologic conditions involving TMJ (9). The evaluation of the mechanisms provoking reduced mouth opening may be very difficult in some SSc patients, as in the case we report. This study was performed in accordance with the Helsinki Declaration of 1975/83. Informed consent was obtained from the patient included in the study.

A seventy-year-old woman with severe SSc who had been suffering for many years was referred to the Rheumatology unit of the University of Florence. Multi-organ involvement was present. The clinical picture was characterised by ulcers of fingers of hands and feet. The patient showed a typical aspect of the scleroderma face with amimia. Gastrointestinal apparatus was mainly involved with dysphagia and pyrorrhoea associated to reduced opening of the mouth (7 mm maximum interincisal distance) that did not allow a normal feeding. Severe bilateral TMJ pain was present at rest and during the movement. The extreme mouth opening reduction and the pain did not even allow to perform the oesophagogastrosocopy which was necessary to investigate the characteristics of oesophageal involvement provoking dysphagia and anorexia. In this patient we used ultrasound (US) examination to evaluate whether pain and reduced mouth opening were due to the inflammatory involvement of joint or not and the condyle bone remodelling was evident (Fig. 1b). The patient was consequently referred to an oral and maxillofacial unit. The first therapeutic approach to induce pain relief and to increase mouth opening, was the local injection with corticosteroids and hyaluronic acid without any

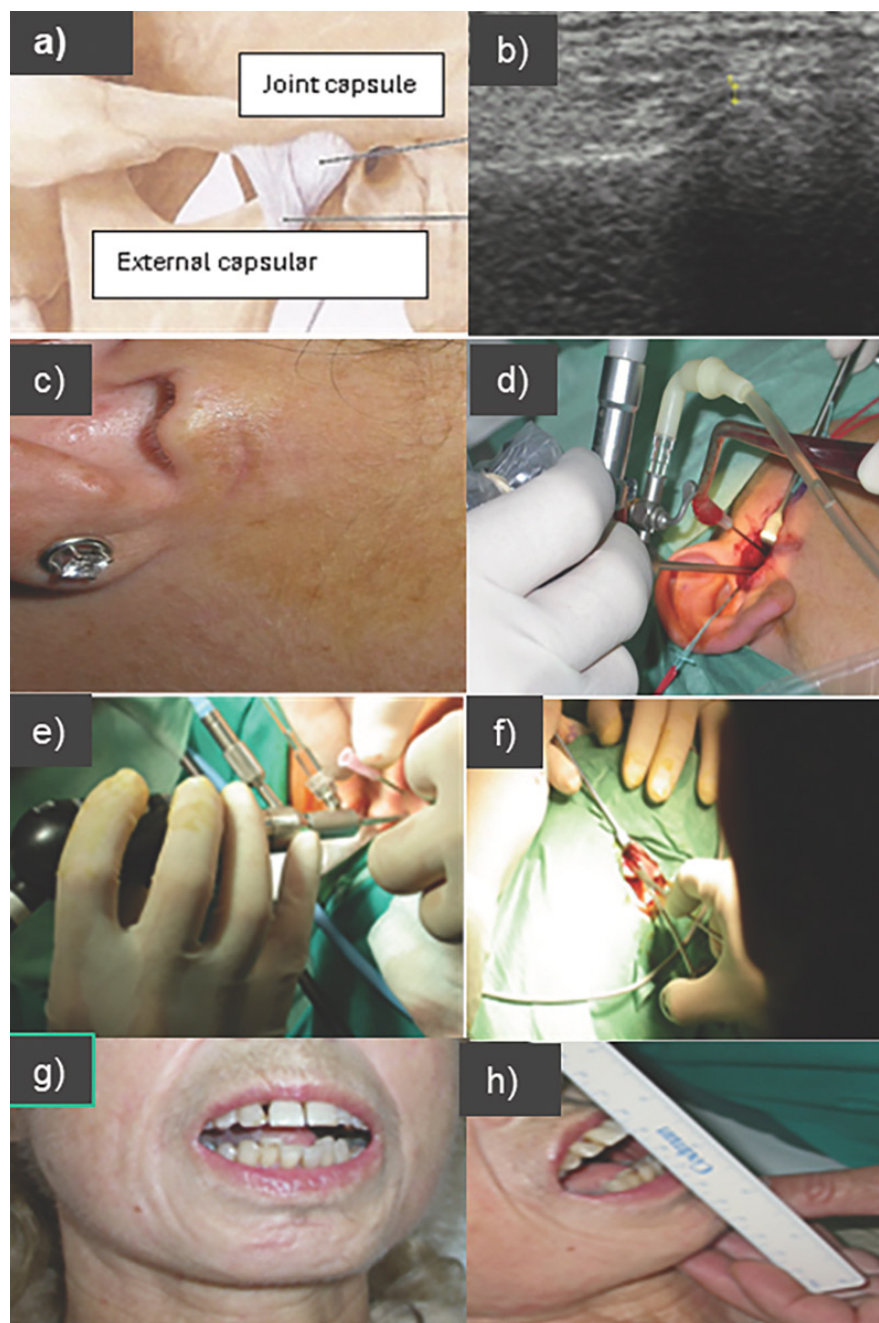


Fig. 1. a. Anatomical TMJ features with position of external capsular ligament; b. TMJ capsular width US image as shown by callipers without joint effusion; c. region of interest for V-MIS; d-e-f. sequence of steps in V-MIS; g. mouth opening before surgical treatment; h. mouth opening after surgical treatment.

effects. Considering the absence of inflammatory signs involving both TMJs, it was hypothesised that reduced mouth opening could be due to the stiffness of joint capsule and/or periarticular tissues. A video-scope-assisted minimally invasive surgery (V-MIS) was performed under local anaesthesia in an outpatient surgical centre. A bilateral capsular arthrotomy was performed with section of external lateral capsular ligament (Fig. 1c-d-e-f). Immediately after the procedure a wider mouth opening was obtained (13 mm) and pain disappeared. In follow up, 10 days after V-MIS, the maximum interincisal distance was increased

from 13 to 18 mm, and the absence of pain was persistent (Fig. 1g-h). After one month the patient still reported no TMJ pain at rest and during mouth opening and had regular feeding. The increase of mouth opening allowed oesophagogastrosocopy.

In this difficult management a multidisciplinary evaluation is mandatory for a tailored therapeutic approach. The discussion of the case in a multidisciplinary team allowed us to obtain a shared hypothesis. It is to note that the hypothesis *ad excludendum* of periarticular fibrosis was considered, also evaluating the good therapeutic effect obtained after surgical section of capsular ligaments.

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Competing interests: none declared.

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