Results

Descriptive analysis showed improvements which up appointments.

The purpose of our analysis was to approach, as proposed by Pesarin, for multivariate repeated one-month, three-months, six-months and one-year follow-up appointments.

Conclusions

Data from the present investigation supported the inefficacy of serial injections of hyaluronic acid after arthrocentesis to reduce symptoms of osteoarthritis and to maintain improvements over time.

Materials and Methods

Study design

Criteria for inclusion in the study were the presence of a Group IIIb diagnosis of temporomandibular joint osteoarthritis according to the Research Diagnostic Criteria for Temporomandibular Disorders (RDC/TMD Axis I Group IIIb) and rheumatic diseases.

According to RDC/TMD guidelines, a Group IIIb diagnosis of osteoarthritis was made when the following signs and symptoms were present:

- arthralgia (TMJ pain with lateral and/or posterior palpation plus anamnestic reporting of TMJ pain during maximum voluntary mouth opening and/or maximum assisted mouth opening and/or lateral excursions);
- crepitus sounds;
- radiological signs of TMJ bone structures abnormalities, such as erosions, sclerosis, flattening, osteophytes.

Twenty-five patients (23 females, 2 males; mean age 60.8; range 40-75) satisfying inclusion criteria gave informed consent to the treatment received and took part to the study.

The study design provided a cycle of five arthrocentesis with injections (one per week) of 1 ml hyaluronic acid (Hyalgan, Fidia, Abano Terme, Italy) according to the technique described by Guarda-Nardini et al. and five follow-up assessments after the end of the treatment (at one week, at one month, at three months, at six months, at one year).

A number of clinical parameters were assessed by the same blinded operator at the time of the diagnosis (baseline), at each appointment during the treatment and at each one-week, one-month, three-months, six-months and one-year follow-up appointments.

Conclusions

Data from the present investigation supported the usefulness of serial hyaluronic acid injections performed after arthrocentesis for the treatment of TMJ osteoarthritis and for the maintenance of improvements over a 1-year follow-up period in a case series of 25 patients. Besides, the treatment protocol was well tolerated by the patients, who also reported a good subjective efficacy. These findings need to be re-evaluated by future researches with an appropriate design to overcome the present study’s limitations. Indeed, further investigations are needed to determine which is the effective part of the protocol; to generalize findings to larger samples; to compare the efficacy of this protocol with that of single treatments alone, efficacy of this protocol with that of single treatments alone, and maximum non-assisted (voluntary, MVMO) and assisted (MAMO) mouth opening in mm.

Table 1. Mean and standard deviation values of minimum and maximum pain at mastication and at rest (VAS values), and maximum non-assisted (voluntary, MVMO) and assisted (MAMO) mouth opening in mm.

Table 2. Mean and standard deviation values of minimum and maximum pain at mastication and at rest (VAS values), and maximum non-assisted (voluntary, MVMO) and assisted (MAMO) mouth opening in mm.

Conclusions

Data from the present investigation supported the usefulness of serial hyaluronic acid injections performed after arthrocentesis for the treatment of TMJ osteoarthritis and for the maintenance of improvements over a 1-year follow-up period in a case series of 25 patients. Besides, the treatment protocol was well tolerated by the patients, who also reported a good subjective efficacy. These findings need to be re-evaluated by future researches with an appropriate design to overcome the present study’s limitations. Indeed, further investigations are needed to determine which is the effective part of the protocol; to generalize findings to larger samples; to compare the efficacy of this protocol with that of single treatments alone, placebo, and other intrarticular medications.