BACKGROUND
Stiffness of the posterior capsule of the glenohumeral joint is considered one of the contributing factors in impingement syndrome [1]. Although this supposition is widely accepted by the scientific community, truth is there is relatively poor scientific evidence supporting such supposition in literature [2]. Stiffness of the posterior capsule clinically manifests itself by a limitation of passive glenohumeral intrarotation and transthoracic adduction [3]. We've based our work on the assumption that the above-mentioned joint limitations are not caused only by a retraction of the posterior part of the capsule but possibly also by a myofascial contracture of the infraspinatus and teres minor muscles.

METHODS
We selected 29 patients previously diagnosed with impingement syndrome [4], and measured both their intrarotation excursion in supine position and pain (vas) through resisted muscular tests and impingement tests. All patients received 3 separate sessions of myofascial massage (lasting 10 m. each) in alternate days and at the beginning and end of each session their joint ROM and pain was measured. Treatment consisted in myofascial massage of the infraspinatus and teres minor muscles around the areas more painful and contracted. During treatment patients were made to lie prone with the affected arm lying straight by their side, thus avoiding any possible stretching of the glenohumeral capsule.

RESULTS
All 29 patients showed an improvement in their intrarotation at each session (Tab. 1) Joint excursion improvement was also statistically significant (P value 0,00). Vas values for both muscular and impingement tests also showed a statistically significant decrease.

DISCUSSION AND CONCLUSIONS
The study’s results show that limitation of the glenohumeral intrarotation in patients suffering from impingement syndrome is caused by a myofascial contracture of the infraspinatus and teres minor muscles and not by a retraction of the posterior capsule. The massage technique we employed proved effective in relaxing the posterior muscles. Not only, such technique may be useful also from a diagnostic viewpoint, as it could help differentiate a joint dysfunction from a myofascial one. Decrease in pain during impingement tests can be explained by the decrease of the antero-superior “obligate translation” [5] caused by the stiffness of the posterior structures; whilst decrease of pain during the muscular tests can be explained by the relaxing of the tendons.
tenseness following muscle relaxation. It is in fact widely acknowledged that there is a certain degree of fusion between the supraspinatus and the infraspinatus tendons at an insertional level; by relaxing the infraspinatus tendon through muscle relaxation it may be possible to promote a better distribution of the mechanical forces related to the supraspinatus tendon.

REFERENCES