ABSTRACT

The aim of this study is to evaluate the efficacy of Collagen Injections GUNA MDs regarding pain and functionality of the shoulder with acute periartthritis and subacromial subdeltoid bursitis (SASDB). We studied 20 patients with periarticular trauma or chronic inflammatory arthritis were excluded. No patient had received previous physiotherapy or local steroid injection in the shoulder.

METHODS:

We studied 20 patients with painful shoulder and sonographic proved SASDB. Patients with previous trauma or chronic inflammatory arthritis were excluded. No patient had received previous physiotherapy or local steroid injection in the shoulder.

RESULTS:

Pain is significantly reduced and the effect on pain remains after the treatment.

1. VAS Pain during the day: on the second visit (day 60-th) the pain during the day reduced 3 fold and continued to reduce till the third visit (day 150-th) more than 5 times compared to the first visit (Fig. 1). VAS Nocturnal Pain: the result was similar with reduction of the nociception pain on the second visit (about 3 times) and result has kept on the third visit (Fig. 2).

CONCLUSIONS:

Collagen injections GUNA MDs significantly affect pain, SASDB and functional activity of the shoulder, thereby increase the quality of life. The efficacy continued after treatment discontinuation. No adverse events were registered during treatment. USG is a method of choice in monitoring treatment efficacy in patients with SASDB.

Aim

1. Collagen injections GUNA MDs significant affect pain, SASDB and functional activity of the shoulder, thereby increase the quality of life.

2. Norway Scale scale (VAS) for pain (0-100). Likert scale and Shoulder Function Assessment (SFA) scale (0-70) before treatment, on 60-th and on 150-th day. Evaluation of the efficacy according to the patient and the physician were performed. All patients had USG of bursa with GUNA MD-Shoulder and GUNA MD-Matrix periarticular, 10 ampoules in the following scheme: during the first 2 weeks - 2 applications per week and during the next 6 weeks - 1 application per week with total course of treatment 8 weeks. No patient received physical therapy during the follow-up period. RESULTS: Pain was significantly reduced and the effect on pain remained after the treatment. There was a statistically significant improvement of SFA index: 80% of all patients gave a very good and good assessment of efficacy, which coincided with the opinion of the physician. 80% out of all patients had reduction or lack of SASDB on second and on third visit which was sonographic proved.

METHODS:

Clinical assessment included demographic and clinical data, a visual analog scale (VAS) for pain (0-100), Likert scale and Shoulder Function Assessment (SFA) scale (0-70) before treatment, on 60-th and on 150-th day. Evaluation of the efficacy according to the patient and the physician were performed. All patients had USG of bursa with GUNA MD-Shoulder and GUNA MD-Matrix periarticular, 10 ampoules in the following scheme: during the first 2 weeks - 2 applications per week and during the next 6 weeks - 1 application per week with total course of treatment 8 weeks. No patient received physical therapy during the follow-up period. RESULTS: Pain was significantly reduced and the effect on pain remained after the treatment. There was a statistically significant improvement of SFA index: 80% of all patients gave a very good and good assessment of efficacy, which coincided with the opinion of the physician. 80% out of all patients had reduction or lack of SASDB on second and on third visit which was sonographic proved.

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Collagen injections GUNA MDs significantly affect pain, SASDB and functional activity of the shoulder, thereby increase the quality of life. The efficacy continued after treatment discontinuation. No adverse events were registered during treatment. USG is a method of choice in monitoring treatment efficacy in patients with SASDB.

Table 1 Including and excluding criteria

<table>
<thead>
<tr>
<th>Including criteria</th>
<th>Excluding criteria</th>
</tr>
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<tbody>
<tr>
<td>1. Age 18-60 years</td>
<td>1. Joint inflammatory and rheumatic autoimmune diseases, infections</td>
</tr>
<tr>
<td>2. Clinical diagnosis: Shoulder periartthritis</td>
<td>2. Degenerative arthritis, trauma, surgery in shoulder</td>
</tr>
<tr>
<td>3. Duration of the symptoms up to 3 months</td>
<td>3. Physiotherapy and topical corticosteroids application within a month before and during the monitoring</td>
</tr>
<tr>
<td>4. Pain by VAS over 25mm</td>
<td>4. Other diseases - diabetes mellitus, neurological diseases incl. brachial plexus, peripheral neuropathy</td>
</tr>
<tr>
<td>5. Sonographic proven bursitis of Subacromial Subdeltoid Bursa</td>
<td>5. Neoplasms, chemotherapy, radiotherapy</td>
</tr>
</tbody>
</table>

Table 2 Likert Scale

**VAS – PAIN DURING THE DAY**

<table>
<thead>
<tr>
<th>First visit</th>
<th>Second visit</th>
<th>Third visit</th>
</tr>
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<tbody>
<tr>
<td>68.5 mm</td>
<td>19.5 mm</td>
<td>12.5 mm</td>
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</table>

Table 3 Assessment of shoulder functional status (SFA)

**VAS – NOCTURNAL PAIN**

<table>
<thead>
<tr>
<th>First visit</th>
<th>Second visit</th>
<th>Third visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.0</td>
<td>1.0</td>
<td>7.0</td>
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</table>

Fig. 1 VAS Pain during the day

**PHYSICIAN ASSESSMENT**

Patient Assessment: Minimum 80% of the patients gave a very good and good assessment of efficacy which coincides with the opinion of the physician (Fig. 5). Doctor's Assessment: At least 80% of the patients were given very good and good evaluation of GUNA MDs' treatment efficacy by the doctor on the second and on the third visit.

Fig. 5 Patient assessment

**PHYSICIAN ASSESSMENT**

Patient Assessment: Minimum 80% of the patients gave a very good and good assessment of efficacy which coincides with the opinion of the physician (Fig. 5). Doctor's Assessment: At least 80% of the patients were given very good and good evaluation of GUNA MDs' treatment efficacy by the doctor on the second and on the third visit.

Fig. 6 Physician Assessment

In the pictures below you can see some sonographic images showing SASDB before and after treatment with GUNA MDs.

**BURSITIS – USG ASSESSMENT**

Bursitis: sonographic estimation. 80% out of all patients had reduction or lack of SASDB on the second and on the third visit which was sonographic proved.

Fig. 7 Bursitis – USG Assessment

**CONCLUSIONS**

1. Collagen injections GUNA MDs significant affect pain, SASDB edema and functional activity of the shoulder.

2. Efficacy assessment of GUNA MDs is high: over 80% according to patient and 80% according to the doctor.

3. GUNA MDs have strengthening and restoring effect on collagen structures which was proved by sonographic estimation of rotator cuff tendons.

4. GUNA MDs can be successfully applied not only in SASDB but in partial rotator cuff lesions of shoulder.

5. GUNA MDs efficacy continued after treatment cessation.

6. GUNA MDs increase patient quality of life.

7. No adverse events were reported during the treatment.

8. Ultrasonography is a method of choice in monitoring of treatment efficacy in patients with SASDB.