



Original Article

Treatment of trochanteric bursitis: our experience

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Abstract. [Purpose] Trochanteric bursitis is a disease for which there are no effective standardized therapy protocols. Very often pain persists in spite of applying all therapeutic treatments. The purpose of this study was to determine whether treatment of trochanteric bursitis with a local injection of bicomponent corticosteroid and 2% lidocaine would improve patients' conditions and relieve pain symptoms in the trochanteric area. [Subjects and Methods] A retrospective observational study was conducted of 2,217 patients in a 6 year follow-up period at the Special Hospital "Agens", Mataruska Banja, Serbia. [Results] Of 2,217 examined patients, 58 (2.6%) patients were found to suffer from trochanteritis associated with low back pain, and 157 (7%) were found to suffer from trochanteric pains without low back pains. Local corticosteroid therapy followed by physical therapy was effective in 77 (49%) of these patients, and only corticosteroid injection in 61 (39%) patients. A single injection was given to 47 (29.9%) of the patients. Two injections were given to 9 (5.7%) patients, and from 3 to 5 injections were given repeatedly every 4–6 weeks to 7 (4.5%) patients. [Conclusion] For most patients, local injections of corticosteroids with lidocaine alone or followed by physical therapy gave satisfactory results.

Key words: Trochanteric bursitis, Treatment

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INTRODUCTION

Many bursas have been described in the region of the hip, but in many anatomies, as in Gray's, only three principal bursas of the lower extremity are described. One, large and very often multilocular bursa, separates the deep surface of the gluteus maximus muscle from the greater trochanter and the short rotator muscles. A second is situated over the tuberosity of the ischium. The third is located between the insertion of the tendon of the gluteus maximus muscle and the vastus lateralis muscle. Any of these may be involved in a pathologic process and the most encountered is the large bursa lying between the greater trochanter and the gluteus maximus muscle^{1, 2)}. Cooperman described acute hematogenous bursitis involving trochanteric bursa with the formation of purulent material³⁾. If there is purulent infection of the trochanteric bursa, it is quite possible to have purulent infection in the hip joint. This condition is known as pyogenic arthritis. Any deep pain over the posterior aspect of the hip with signs of infection calls for further search for an infected bursa. The diagnosis can be made by aspiration. Since the early 1930s, trochanteric bursitis (TB) has been reported by many authors. Development of a TB with calcification has been frequently described by many authors^{4, 5)}. Some authors have pointed out the analogy between

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acute bursitis of this type and that of the shoulder. The calcification in both is located in a tendon adjacent to the bursa at the proximal end of the limb. The two conditions have similar treatments involving induction of hyperemia to promote absorption of the deposit of calcium and subsidence of the symptoms. There is a big difference between bursitis of the trochanter and the bursitis of tuberculum majus after treatment. The response to treatment is more often favorable in the hip joint than in the shoulder joint. Conservative measures usually suffice in the hip joint. TB rarely occurs by itself; usually it presents with other clinical entities. Differential diagnosis of TB includes: greater trochanteric pain syndrome (GTPS)⁶, stress fracture of the femoral neck⁷, iliotibial band syndrome, radiculopathy, low back pain syndrome⁶, great trochanter osteomyelitis, tumors or metastasis of lung adenocarcinoma⁸, and hip arthrosis⁹. Spontaneous rupture of the conjoined tendon of the gluteus medius and minimus may also have symptoms like trochanteric bursitis and can be revealed by MRI examination¹⁰. A “snapping hip”, common in dancers, may be caused by the iliotibial band sliding over the greater trochanter¹¹. There are overlaps of TB and GTPS. Unlike bursitis, GTPS is rarely accompanied by the principal symptoms of inflammation including erythema, edema, and rubor¹². GTPS commonality includes prolonged, intermittent peritrochanteric pain accompanied by tenderness to palpation overlying the lateral aspect of the hip¹². The term TB implies presence of inflammation, whereas GTPS is defined as tenderness to palpation over the greater trochanter with the patient in the side-lying position and may relate to myofascial pain rather than inflammation¹³. The etiology of GTPS is not fully known. Low back pain, TB and knee osteoarthritis are risk factors for the development of GTPS⁶. Bursopathy, intrinsic degenerative tendinitis, traumatic tendon avulsions, calcific tendonitis, snapping hip and iliotibial band syndrome are causes of GTPS of soft tissue origin. Fracture enthesopathy and arthritis, prostate cancer, endometriosis, ovarian cyst, inguinal hernia, radiculopathy or coxa saltans in younger persons could also present as GTPS⁶. Conservative therapies for TB include cryotherapy, local laser therapy, local injections of corticosteroids and analgesics/anesthetics, and weight loss¹⁴⁻¹⁶. There is no standard therapeutic protocol and in some patients, pain may persist despite conservative treatment. The purpose of this study was to show that improved treatment of TB can improve patients' conditions and relieve patients' pain symptoms in the trochanteric area.

SUBJECTS AND METHODS

From 2008 and 2014, 2,217 patients (1,289 female and 928 male) were examined at the orthopedic unit of the Special Hospital “Agens”, Mataruska Banja, Serbia. They were complaining of chronic low back pain and very often pain was radiating to the lower extremities. The observation period was six years (Table 1). The study was based on clinical evaluation and radiological and laboratory examinations. X rays of the hips and lumbar spine were taken. Laboratory examinations included C-reactive protein (CRP), Latex, Waalar Rose, fibrinogen, sedimentation, and antistreptolysin O titer (ASO) tests. The radiological and laboratory findings were not significant. Main symptoms were chronic lateral hip pain provoked by active abduction and passive adduction. Pain was also provoked by direct palpation.

Patients with TB were treated conservatively. Individual therapeutic approaches were used. The main reason for avoiding local corticosteroid treatment was osteoporosis. If pains existed for only a few weeks or less, treatment was administered by oral therapy. Physiatrist treatment with or without local injections of corticosteroid therapy or anti-inflammatory drugs consisted of: low energy shock wave therapy, laser application directly over the trochanteric pain, and strengthening of the gluteal and tensor fasciae latae muscles.

RESULTS

During 2008–2014, 58 (2.6%) of 2,217 patients were found to suffer from trochanteritis associated with low back pain and 157 (7%) were found to suffer from trochanteric pain without low back pain. Only 13 (8.3%) of 157 patients were male patients. The age of our patients ranged from 27 to 78 years (with an average age of 52.4 years). The duration of symptoms before treatment ranged from 3 months to 7 months (average of 5.5 months) (Table 2). Depending on the clinical conditions and responsiveness to therapy, different therapy approaches were used: 1) physical therapy and anti-inflammatory medication without corticosteroid injection or oral administration (14 of 157 patients, 9%); 2) local corticosteroid therapy [local injection of diprophos (Schering-Plough Sw) and lidocaine 2% or vexelit 5%] followed by physical therapy (77 patients, 49%); 3) only diprophos injection with lidocaine given once (61 patients, 39%); and 4) only anti-inflammatory drugs (naproxen, ibuprofen, volteren or indomethacin) with application of antirheumatic or antichloristic creams over the painful area 2 or 3 times per a day, and weight loss (5 patients, 3%) (Table 3). We did observe any serious complications. Complications after treatment were swelling and increase in local pain in 3 patients. After early symptoms were recognized, only one injection of diprophos was administered in the treatment of 47 (29.9%) of the patients. Two injections were given to 9 (5.7%) patients, and from 3 to 5 injections were given to 7 (4.5%) patients. Injections were repeated every four to six weeks.

DISCUSSION

Physiotherapy typically adopts a multimodal approach, involving exercise, manual therapy, education and advice, and prescription of gait aids, if indicated. Physiotherapy decreases pain and inflammation of the joint, improves the passive flexion and exertion of the joint and enhances total healing¹⁷. On the other hand, when corticosteroids are injected into or

Table 1. General characteristics of the study subjects

Time period	Number of patients	Age of patients	Gender of patients
2008–2014	2,217	27 to 78 years (average of 52.4)	1,289 Females and 928 Males

Table 2. General characteristics of the subjects with trochanteric bursitis

Time period	Number of patients with trochanteric bursitis	Number of patients with trochanteric bursitis associated with low back pain	Gender of patients	Duration of symptoms before treatment
2008–2014	157	58	144 Female and 13 Males	3 to 7 months (average of 5.5)

Table 3. Treatments administered to the patients with trochanteric bursitis

Treatment	Physical therapy and NSAIDs	Corticosteroid and local anesthetic with physical therapy	Corticosteroid and local anesthetic	NSAIDs and weight loss
Number of patients (with percentage)	14 patients (9%)	77 patients (49%)	61 patients (39%)	5 patients (3%)

NSAIDs: nonsteroidal anti-inflammatory agents/analgesics

around a painful area, they can reduce the inflammation in that area, relieving pain, reducing tissue swelling, and improving function and mobility. Depending on the condition that is being treated, steroid injections can provide pain relief ranging from several weeks to up to many months⁷. In relation to the physical therapy, corticosteroid injections have a stronger, but shorter-lasting effect¹⁸.

TB is a more common clinical condition than is diagnosed in the process of clinical examination. Patients with this syndrome usually suffer from pain, paresthesia in the leg, and sometimes tenderness over the iliotibial tract can be present. TB must be recognized because of its similarity with chronic low back pain. These two conditions can be present at the same time. The major criteria usually used for the diagnosis of TB are marked tenderness to deep palpation immediately above or posterior to the greater trochanter, and relief of pain after peritrochanteric injection with a corticosteroid and local anesthetics. Relief should be immediate and last as long as the anticipated duration of the anesthetic¹⁹.

Schapira et al.¹⁴ reported that TB was associated with other pathologic conditions in 91.6% of patients: ipsilateral hip involvement (44.5%), lumbar spondyloarthrosis (38.8%), and rheumatoid arthritis (8.3%) with bilateral involvement of the feet and knees but without clinical or radiologic involvement of the hips. In only a small number of patients, TB was not associated with any other rheumatic abnormality. In rare cases, it can be an isolated condition of unknown etiology, but usually TB is associated with damage of the ipsilateral hip joint, lumbosacral strain and obesity¹⁵. Schapira et al.¹⁴ also reported that bursitis, as an isolated condition of unknown origin, was present in 8.3% of cases which is similar to our result of 7.1%. The same authors reported that local treatment of corticosteroid and anesthetic infiltrations provided rapid and prolonged improvement of the pain and disability in 90.3% of the patients after a single dose. The same authors suggest that local corticosteroid infiltration proved to be the treatment of choice as well as a diagnostic test. However, when conservative treatment is unsuccessful, alternative treatments or even surgical treatment may be necessary⁹. TB represents only 2.5% of hip injuries in the sporting population¹². The majority of athletes with TB show a good response to on conservative treatments (elongation, cryotherapy, local infiltrations of anesthetics and corticoids, rest or lower intensity training). Surgical treatment can be performed 1–6 years after of unsuccessful conservative treatment for TB and includes longitudinal incision of the tractus iliotibial over the great trochanter and incision of the bursa⁹.

In agreement with other studies^{6, 13}, our study confirmed the greater prevalence of TB and GTPS in females than in males. The mechanism for increased GTPS in females is unclear. Segal et al.¹³ commented that it could be related to differences in anatomy, hormonal effects, or differences in activity between males and females. Using a multivariate model, adjusted for age and gender, they found that TB, ipsilateral and contralateral and ipsilateral knee osteoarthritis, and low back pain were positively related to GTPS.

Similar treatments (local injection with methylprednisolone and 3% lidocaine hydrochloride) were reported by Schapira et al.¹⁴ who performed single dose or 2–3 repeated dose administrations at 3-week intervals. The same authors reported that patients who refused injections were treated by ultrasound. While not proven, interventions such as ultrasound, laser, and electric stimulation may be considered for transient, palliative symptom relief and possible stimulation of the healing process⁶.

In a review, Lustenberger et al.¹⁵ calculated that a corticosteroid injection alone resulted in a mean improvement in pain

of 2.8 points on a visual analog scale, which was a significantly better results than after home training or extracorporeal shock wave therapy, at one month from the baseline. This effect declined at both the 4 and 15 months follow-ups. The long term effectiveness in pain reduction and function improvement was demonstrated in a systematic review of extracorporeal shock wave therapy which reported there were equal or superior outcomes for injections compared to exercise therapy⁶).

Greater trochanteric pain syndrome negatively affects work, physical activity and quality of life²⁰. Patients with GTPS have poor quality of life and higher pain and physical impairment which is comparable to people with end stage hip osteoarthritis awaiting a total hip arthroplasty²⁰. Data for TB as an isolated phenomenon are lacking, and the efficacy of conservative TB treatment varies according to different authors from 40–100%^{6, 14, 15}).

TB is a common problem that can arise from different underlying but painful problems to patients. In this study we tried to summarize some important points regarding the treatment of TB. Our patients were treated with non-operative modalities. The best results were achieved by corticosteroid injection and local anesthetic. In some cases multiple injections followed by physical treatment were repeated. The majority of patients can be treated by a single injection which provides an improvement by decreasing pain. As there is no adequate or unique treatment for TB, new intervention strategies and multimodal approaches are necessary. The isolated efficacy of any one treatment is unestablished and a customized combination of treatment modalities is recommended. Treatments we suggest are: 1) home therapy using only by painkiller drugs and anti-inflammatory drugs for local application; 2) drugs and multimodal conservative physical therapy using low energy ultrasound and laser, sometimes followed by weight loss diets; and 3) corticosteroid injection with local anesthetic which can be given only once or repeated after four to six weeks with or without strengthening of the muscles.

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