CLINICAL REPORT

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Physiotherapy & Rehabilitation Division

The treatment of pre-trocantheric bursitis through the use of radial shock wave therapy

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INTRODUCTION

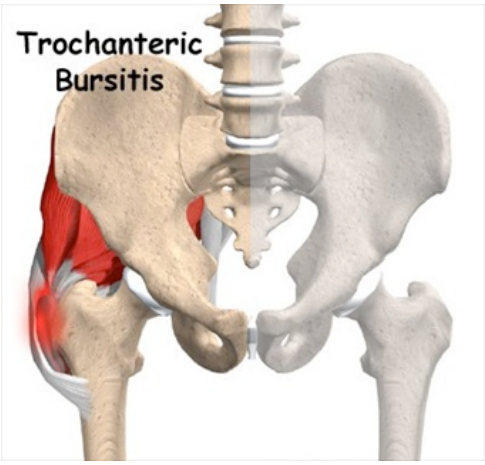
The Trochanteric bursitis (known also as bursitis of the big trochanter, trochanteritis or trochanteric enthesitis) is an inflammatory process that affects the siero mucose bag of the big trochanter, which is a tuberosity located in the proximal epiphysis of the femur where are inserted the medium and small gluteal muscles, the internal and external obturator muscles and the twin muscles.

The trochanteric bursitis can affect both athletes and no-athletes. As far as the first group is concerned, the disease occurs more commonly in middle-aged, in overweight people or in those who have problems arising from the alteration of the mechanisms of gait (patients with rheumatoid arthritis, osteoarthritis, lower limb asymmetry, etc..). The disease is more common in females because of the wider pelvis and the resulting increase in tension for tendon structures.

DIAGNOSIS

An objective examination is often enough to make the diagnosis of the disease which is detected by the presence of pain on palpation in the affected area (see picture 1) and for a limited mobility of the hip.

For an accurate evaluation of the status of the disease is advisable to perform an ultrasound scan which will reveal the liquid's effusion, or in case of fibrous type chronicity, inside the bag of the big trochanter, the oedema or the swelling of the surrounding area and the microcalcifications to the tendon insertion. In order to exclude any coexisting problems affecting the coxofemoral joint, it can be required to perform an X-ray or a magneti resonance.



Picture 1. Painful area in case of trochanteric bursitis, (r ed mark).

CASE REPORT

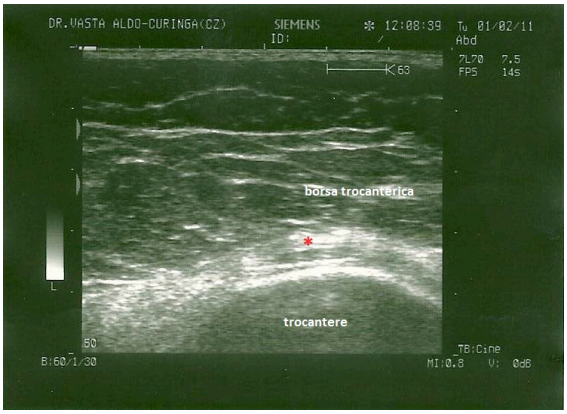
41-years-old woman, physical therapist, suffering from painful symptoms of discreet intensity, which are continuous throughout the day, typically in the left hip, which often radiates back into the buttock. There is no pain in the groin area (unlike the hip joint disease).

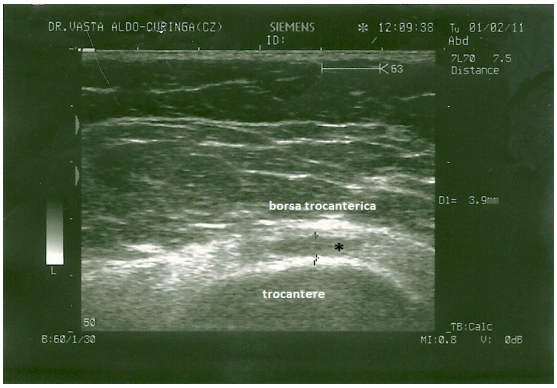
Movements such as going up and down the stairs, crossing legs or lean on the painful side aggravate the pain. The patient has slight limp walking , or the acceleration of the walk from the painful area to reduce the time they lay on the painful side, consequently decreasing the pain.

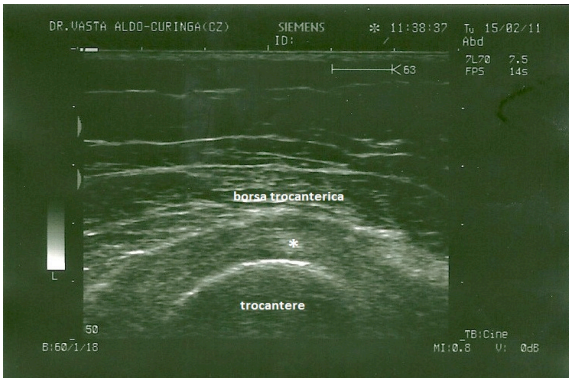
The pain is accentuated during the night disturbing the sleep of the patient.

The ultrasound examination performed before the treatment shows a hyper-ecogenicity of the bursal content (post-inflammatory fibrosis) with thickening of the wall of the trochanteric bag that is well displayed during the examination with a size of about 6mm thick in AP (see Picture 3).

The patient was occasionally taking nonsteroidal anti-inflammatory drugs (piroxicam, paracetamol) and steroids (betamethasone vials) and about three months before the current visit (December 2011) she made two weekly injections of corticosteroid into the painful area and anaesthetic (lidocaine + betamethasone) with no results on the pain.







Picture. 2. Pelvis of the treated patient. As it is shown in the picture, the patient has a moderate width of the pelvis and has substantial amount of adipose peri-trochanteric tissue .

Picture. 3. Ultrasound examination before treatment and in 3 sessions (c). Description in the text.

TREATMENT

The trochanteric bursitis is not a particularly serious disease, although in some cases is can be disabling (as in the case we treated), but it should not be underestimated in order to prevent it from getting worse.

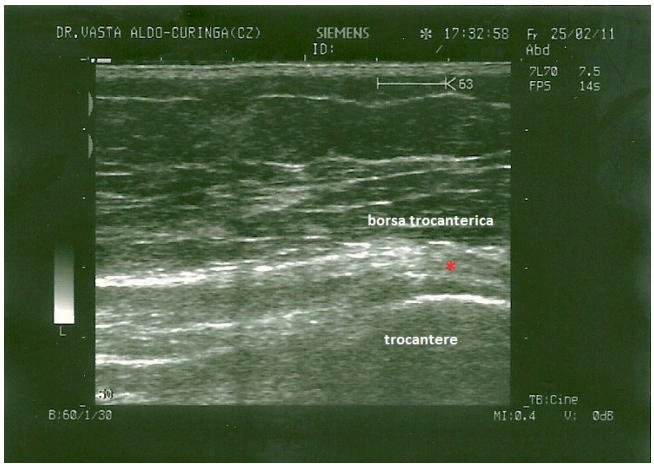
The best treatment is represented by total rest for a period of 15-20 days. The patient had already undergone all traditional therapies (anti-inflammatory, rest, intra-bursal infiltration, etc. ..) and therefore, given the clinical features of bursitis and the consequent inability to work, in this case it was decided to carry out the treatment with shock waves.

The treatment consisted of 4 weekly sessions with radial shockwaves using Shock Med ballistic system of Medical Italia-EME Pesaro (PU) with parameters of 3000 shots in continuous mode at a pressure of 4.5 bar with a duration of about ten minutes per session. Neither local anaesthesia was performed, nor anything else before or during the application. Anti-inflammatory enzymes have been used just the day before and two days after treatment (Wobenzym Vital ™ (named Pharma) 2 x 2 cps cps / day) as adjuvant therapy and immediately after the session locally ice packs in the treatment area for 10 minutes and then 5 minutes more at home. The only side effect is the formation of four small surface bruises (given the high pressure involved) (see Picture 4) which completely disappeared.

The patient reported an exacerbation of pain at night after the first session with shockwave. The decrease in pain has occurred after the second session with a total disappearance of painful symptoms after about 5 days since the last treatment session.

The follow-up performed after 2 months from the end of the treatment confirmed the disappearance of all symptoms related to trochanteric bursitis, indicated in the diagnosis of this case report, with the patient going back to normal activities without relapse.

Picture. 4. Small superficial bruising post-treatment appeared after the second session, and disappeared within 8 days.



Picture. 5. Ultrasound examination after the fourth treatment. Note the decrease in volume of the bag and the decrease of the thickening of the bag wall itself and the thickness (significant in the patient) of the soft tissues hypodermic peritrochanteric (adipose tissue) from adipocyte lysis secondary to treatment with shock waves.

DISCUSSION

Treatment with radial shock waves in this clinical case allows to make some clinical and operational considerations:

1. Radial shock waves are very effective in the treatment of bursitis, even in those which are deep, with excellent results even when others remedies fail (anti-inflammatory drugs, local injections, etc. ..)

2. Consequently, radial shock waves are used to treat even diseases such as the deep trochanteric bursitis with excellent results

3. The result obtained in the patient is even more striking when one considers the chronicity of the problem and the presence of discrete adipose tissue peritrochanteric

4. The high pressure needed during the treatment (4.5bar) also showed a moderate effect on the adipose tissue in the treated area with a decrease in thickness of the layer of fat present in the patient including an indication of the significant effects on adipose tissue (cavitation effect).

5. The effects on structures adjacent to the shock wave treatment (snow-vascular structures and soft tissues) indicate that the proper execution of the methodology and the use of appropriate parameters are essential to avoid unpleasant side effects when using high pressures (> 4 bar).

6. In our opinion, the use of radial shock wave must be carried out exclusively by qualified medical personnel.

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