

Extracorporeal Shock Wave Therapy for soft tissue diseases in shoulder with ultrasonographic localization technique

Authors:

Gengyan,Xing ; Rufang,Jing

Institution:

Orthopaedic Department, The General Hospital of CPAP,
Beijing, 100039, China

Introduction:

Subacromial bursitis (SB) is a common condition that affects the shoulder joint. Subacromial bursitis is caused by overuse or repetitive movement of the shoulder (this may include an occupation which requires lifting, working above the head, etc.). Symptoms may include localized shoulder pain and tenderness. The pain will be worse when the arm is raised to the side. Inflammation of the long head of the brachial biceps muscle (ILBM) is a relatively common cause of shoulder pain. It is localized to the anterior face of the shoulder, is exacerbated especially by anterior elevation and external rotation. The biceps muscle splits into two tendons at the shoulder. A long one and a short one. The long tendon runs over the top of the humerus bone (upper arm) and attaches to the top of the shoulder blade. Inflammation of this tendon is a fairly common complaint especially with swimmers, rowers, throwers, golfers and weight lifters. Both Subacromial bursitis and Inflammation of the long head of the brachial biceps muscle (ILBM) can be treated with ESWT.

Objective:

In order to reveal the effect of Extracorporeal Shock Wave Therapy (ESWT) with ultrasonographic localization technique for subacromial bursitis (SB) and inflammation of long tendon of biceps muscle (ILBM), the comparative study was used between ultrasonographic localization technique and pain-point localization technique.

Method:

151 cases, 65 cases of SB and 86 cases of ILBM were treated with ESWT. 25 of 65 cases of SB were referred with ESWT of ultrasonographic localization technique, other 40 with ESWT of pain-point localization technique. 31 of 86 cases of ILBM were referred with ESWT of ultrasonographic localization technique, other 55 cases with ESWT of pain-point localization technique. Shoulder function and pain (visual analogue scale, VAS) were assessed before treatment and at one week and six months after treatment. The satisfied rate were compared between the ESWT with ultrasonographic localization technique and ESWT with pain-point localization technique in SB and ILBM.

Results:

Through 6 months follow up, the results showed that the satisfactory rates were respective 89.6% (SB) and 92.3% (ILBM) in the cases with the ESWT of ultrasonographic localization technique, the satisfactory rates were respective 76.9% (SB) and 79.1% (ILBM) in the cases with ESWT of pain-point localization technique. The difference of satisfactory rates were significant between two ESWT groups (ultrasonographic localization technique group and) in SB and ILBM cases, ($P < 0.05$).

Conclusion:

Through the study, we considered that the effect of the ESWT with ultrasonic localization technique was better than the ESWT with pain-point localization technique for SB and ILBM. The ultrasonic localization technique is of important role in advance of satisfactory rate in ESWT.