prepared PEN standard. Urine samples of OA patients and healthy controls were evaluated. Results can probably yield useful additional information about activity of the disease.

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SAT0195 SONOGRAPHIC AND CLINICAL EVALUATION OF THE INVOLVEMENT OF ACROMIOCLAVICULAR JOINT IN PATIENTS WITH SHOULDER PAIN

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Background The involvement of acromioclavicular joint (ACL) can be one of the causes of shoulder pain. Sonography studies carefully ACL and easily detects alterations of that joint.¹ In particular ultrasonographic analysis makes it possible to reveal the presence of effusion and to show irregularities of the joint margins. By performing an adduction stress test clinical examination can reveal the presence of pain at the ACL.²

Objectives The aim of the present study was to examine sonographically the involvement of ACL in patients with painful shoulder and to compare the results with those obtained by clinical examination of ACL (adduction stress test).

Methods 425 patients with shoulder pain were studied. They were 282 female and 143 male; their mean age was 57.9 years (range 18–90). In 103 cases bilateral involvement was present; for this reason 528 shoulders were studied totally. Moreover both the shoulders of 198 healthy control subjects were examined. They were 109 female and 89 male and their mean age was 56.3 years (range 19–69).

Sonography of ACL was performed using a 7.5 MHz linear transducer. In all cases ACL was examined by longitudinal scanning of the joint, with the shoulder in neutral position. Effusion was revealed when the capsule stood convex to the articular space with simultaneous appearance of hypoechoic area within the joint.¹ Irregularities of the joint margins were considered present when the bone surface of the clavicle and of acromion appeared discontinuous.

An adduction stress test was performed holding the arm with the elbow and shoulder extended and then passively adducting across behind the back.² Differences were analysed by Chi Square test.

Results Sonography of ACL showed involvement of that joint in 270 cases (51.1%; $p < 0.0000$). In particular effusion was present in 142 joints (26.9%) and it was slight in 94 cases (66.2%), moderate in 46 (32.4%) and marked in 2 (1.4%). Irregularities of the bone surface were found in 161 cases (30.5%; $p < 0.0000$). In 109 joints only effusion was present, in 128 only irregularities were found, in 33 both of the alterations were revealed.

In healthy control subjects effusion was present in only 2 cases (0.5%), irregularities were found in 9 shoulders (1.7%).

The adduction stress test was positive in 43 joints (8.1%; $p < 0.0001$). In particular it was positive in 34 cases with sonographic finding of effusion, in 8 ACL with sonographic evidence

of both effusion and irregularities and in 1 joint with sonographic demonstration of irregularities. Moreover, considering only the cases with joint effusion the test was positive in all the 2 cases with marked effusion, in 33 out of the 46 with moderate effusion and in only 1 out of the 94 with slight effusion.

Conclusion Sonographic study appeared to be more sensitive than clinical examination. Moreover ultrasonographic technique made it possible to identify the type of alteration showing whether it was due to the presence of inflammation (effusion) or to degenerative process (irregularities) within the joint.

Sonographic demonstration of alterations of ACL in a great percentage of cases of shoulder pain evidences the importance of this joint in the shoulder girdle pathology.

SAT0196 STEREOLOGIC MEASUREMENT OF INFLAMMATORY SYNOVIAL MEMBRANE VOLUME ON MR IMAGES

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Background Manual outlining of the synovial membrane on MR images in inflammatory joint diseases is too time consuming for clinical use.

Objectives The purpose was to introduce a less time-consuming stereologic method for measuring synovial volume by MRI in inflammatory joint diseases.

Methods Post-contrast 3-D T1-weighted turbo gradient MR images of the finger (metacarpophalangeal and interphalangeal) joints (14 joints) were acquired from 11 patients with rheumatoid arthritis ($n = 8$) and reactive arthritis ($n = 3$). Manually outlined volume was taken as a gold standard and compared with stereologic volume estimation on transverse 1 mm thick slices.

Results The total volume of 154 finger joints was estimated. A significant correlation between manual and stereologic estimations of synovial volumes was found (Spearman rho = 0.71, $P = 0.002$). 95% limits of agreement were ± 5 –6 ml (14 finger joints per patient). The time used for volume determination in a patient varied from 1–2.5 h by manual outlining and from 0.5–1 h by stereologic determination.

Conclusion Stereologic volume estimation can provide measures of synovial volumes comparable to the manual outlining method and is less time-consuming. Stereologic volume estimation seems to be a clinically useful method, especially if it is integrated in the MR unit's workstation.

SAT0197 INTESTINAL BEHCET'S DISEASE AND CROHN'S DISEASE: A RADIOLOGICAL COMPARATIVE STUDY

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Background

Objectives The aim of this study was to compare the enteroclysis findings in Behcet's disease (BD) and Crohn's disease (CD).

Methods From 1997 to 2000, seventeen patients with clinical suspicion of intestinal BD were examined by enteroclysis and radiological findings were compared to those seen in 50 Crohn's cases.