Background: Synovial fluid cell counts have long been recognised to have utility in the diagnosis and management of arthritis. Few studies have explained the diagnosis value of synovial fluid cell counts in gout patients.

Objectives: The study aims to investigate the diagnosis value of synovial fluid cell count in gout patients.

Methods: A total of 185 gout, 64 rheumatoid arthritis (RA), 26 axial spondyloarthritis (axSpA), and 24 osteoarthritis (OA) patients were included into the study. According to serum uric acid (sUA) level on attack, gout patients were divided into normal sUA gout patients and high sUA gout patients. The laboratory data was recorded and ROC curve was performed.

Results: The synovial fluid WBC, PMBC, monocyte, PMN and neutrophil in gout patients were higher than OA patients (P < 0.05). The synovial fluid PMBC and lymphocyte in gout patients were lower than RA and axSpA patients (P < 0.05). Compared with RA, axSpA and OA patients, ROC curve showed that the AUC value of lymphocyte and sUA for gout were 0.728 and 0.881, which were higher than other variables. The optimal cut off value of lymphocyte for gout was 1.362, with sensitivity of 83.3% and specificity of 60.6%. The AUC value of lymphocyte and sUA for normal sUA gout patients were 0.694 and 0.643, which were higher than other variables. The optimal cut off value of lymphocyte for normal sUA gout patients was 1.362, with sensitivity of 81.6% and specificity of 60.6%.

Conclusion: Synovial fluid cell counts of gout patients were different from RA, axSpA, and OA patients. Synovial fluid lymphocyte had a higher diagnosis value for gout.

Disclosure of Interests: None declared

Disclosures: None declared

DOI: 10.1136/annrheumdis-2021-eular.2431