Sensitivity and specificity of US were calculated using microscopic findings as the gold standard.

**Results:** 101 patients have been enrolled in the study, 33 patients have been excluded due to loss of anatomical pieces at surgery. The mean age of the remaining 68 pts was 71yo (±8), 44 women, 24 men, 34 were affected by CPPD, 25 by gout. We further compared the results of PM to ultrasound (US), conventional radiographs (CR), and suspected clinical diagnosis (SCD). Additionally, 15 laboratory parameters were analysed.

**Methods:** Twenty-six patients diagnosed with gout (n = 18) or CPPD (n = 8) who received a DECT and underwent arthrocentesis were included. Two independent readers assessed colour coded, as well as 80 and 120kV DECT images for signs of microvascular units (MSU) crystals or CPP deposition. US, CR and CT of the patient's initial visit along with the SCD were also compared to PM. US examination were performed by certified musculoskeletal ultrasound specialists. The combination of up to 15 laboratory parameters such as uric acid, thyroid stimulating hormone, and C-reactive protein (CRP) with the PM results was analysed.

**Results:** Sensitivity of DECT for gout was 67% (95% CI 0.41-0.87) with a specificity of 88% (95% CI 0.47-1). Concerning CPPD, the sensitivity and specificity of DECT was 63% (95% CI 0.25-0.91) and 83% (95% CI 0.59-0.96) respectively. US had the highest sensitivity of 89% (95% CI 0.65-0.99) with a specificity of 78% (95% CI 0.30-0.97) for gout, while the sensitivity and specificity for CPPD were 88% (95% CI 0.73-1) and 89% (95% CI 0.63-0.99) respectively. The SCD had the second highest sensitivity for gout at 78% (95% CI 0.52-0.94) with a comparable sensitivity of 63% (95% CI 0.25-0.92) for CPPD. Uric acid levels were elevated in 33% of gout patients and 25% of CPPD patients. While elevated CRP levels were observed in 59% of gout patients and in 88% of CPPD patients, none of the 15 analysed laboratory parameters were found to be significantly linked.

**Conclusion:** DECT provides a non-invasive diagnostic tool for gout but might have a lower sensitivity than suggested by previous studies (67% vs 90%).

**References:**

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