SIEMENS Healthineers

Crystal deposition disease

Multitom Rax Real3D[1] Hi-Res clinical case
University Hospital Wuerzburg, Germany

[1] Option

Clinical background and indication for Multitom Rax Real3D[1] Hi-Res examination

SIEMENS Healthineers

Patient
Male |*1947 | BMI 26.5 kg/m²

Anamnesis
Patient reports chronic wrist pain without trauma.

Indication for Real3D[1] Hi-Res examination
Radiography displays disseminated soft tissue calcifications (arrows) and pantrapezial osteoarthritis (open arrows). No fracture can be ascertained.

Conventional X-ray examination

The products/features (mentioned herein) are not commercially available in all countries. Their future availability cannot be guaranteed.
[1] Option

Multitom Rax Real3D[1] Hi-Res Settings

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Settings for tableside scan with High Quality Protocol

Tube voltage	80.7 kV
Current time product	792 mAs
Dose area product	550 µGy·m²
Calculated value for $CTDI_{vol,32}$	7.5 mGy
Scan time	14 sec
Number of projections	318

Reconstruction settings for sectional views

Pixel size	0.2 mm
Reconstruction kernel	very sharp (equivalent to Ur77)
Slice thickness	2 mm

Multitom Rax Real3D[1] Hi-Res
Diagnostic findings

In addition to the calcifications of the triangular fibrocartilage complex (TFCC; arrow), which had already been visible in radiography, Rax Real 3D images depict similar opacities in the dorsal segment of the scapholunate ligament (open arrow). The scapholunate gap is widened, raising suspicion for the presence of scapholunate dissociation. Carpal height is normal and signs of carpal instability are missing.

Study ID 5aab5559

Coronal view

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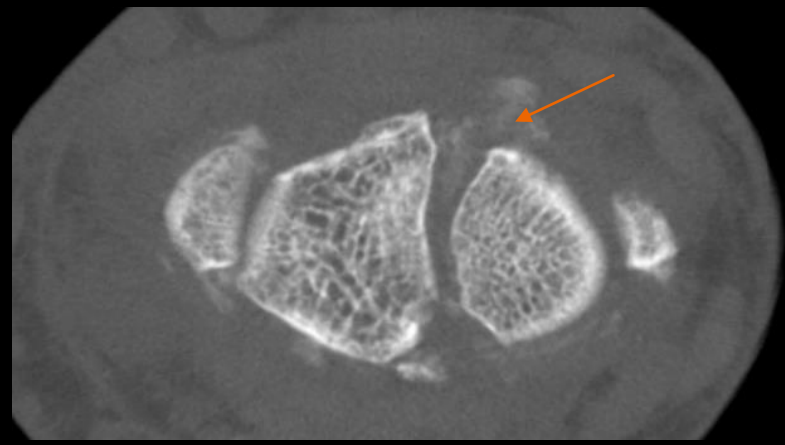
Multitom Rax Real3D[1] Hi-Res
Diagnostic findings

Axial image shows dorsal widening of the scapholunate gap and blurred opacities in the dorsal portion of the scapholunate ligament. The distribution pattern of the calcifications is highly suspicious of calcium pyrophosphate dihydrate (CPPD) crystal deposition disease.

Coronal image of the radial carpal column depicts thumb base joint arthritis with concomitant scaphotrapezial arthritis. Considerable displacement of the metacarpal I is visible.

Conservative therapy was initiated, including immobilization and anti-inflammatory drugs. Pain relief was satisfactory. Crystal deposition disease may lead to carpal instability and early-onset arthritis over time, hence regular follow-up is advised.

Axial view



Coronal view

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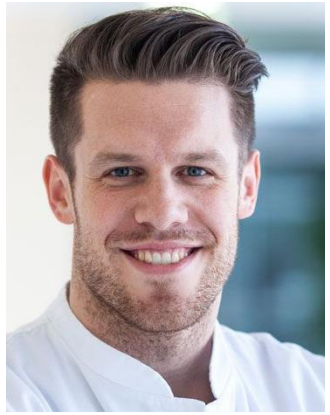

“Soft tissue contrast is high, allowing for diagnosis of fracture-related findings (e.g. hematoma) and additional pathologies (e.g. crystal deposition disease).”[1]

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[1] The statements by Siemens Healthineers customers described herein are based on results that were achieved in the customer’s unique setting. Since there is no “typical“ hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption) there can be no guarantee that other customers will achieve the same results.

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Results from case studies are not predictive of results in other cases. Results in other cases may vary.

Dr. Jan-Peter Grunz is employed by an institution that receives financial support from Siemens Healthineers for collaborations.