Case Report: Trevor's Disease

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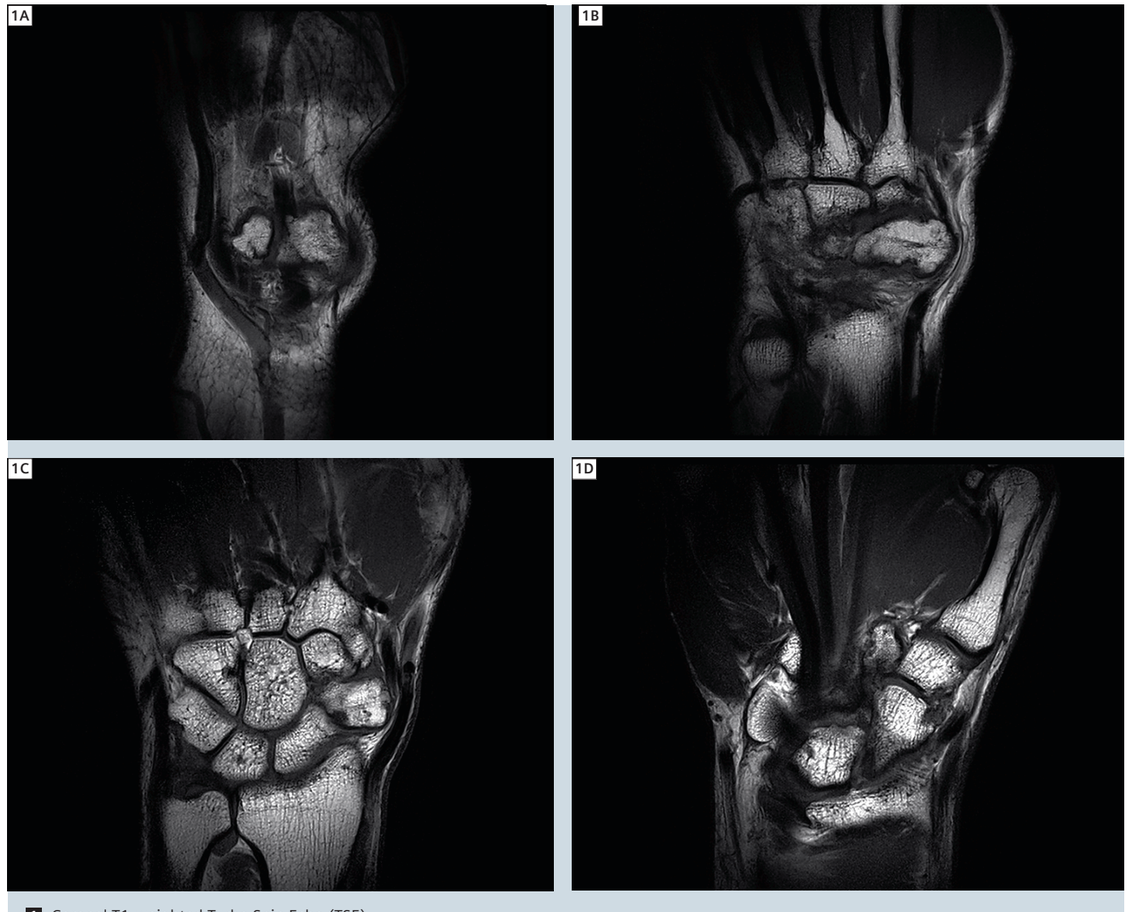
Image findings of a 47-year-old patient with suspicion of dysplasia epiphysealis hemimelica (known as Trevor's disease) are presented in this case report. The patient was initially examined because of suspected bone tumor of the left carpal bone. However, based on its morphological features and signal intensity conform with bone marrow / fat these findings are compatible with Trevor's disease. Bone edema and inflammation of the surrounding soft tissue is present. As an additional finding, an osteochondroma of the multangular bone was found in this examination.



1 Coronal T1-weighted Turbo Spin Echo (TSE).

Sequence details

All images shown in this case report were acquired with a 3 Tesla MAGNETOM Trio, A Tim System, and the usage of two single 70 cm diameter loop-coils, placed like a sandwich double-loop coil to enable parallel imaging. Sequence parameters were:
Coronal T1-weighted Turbo Spin Echo (TSE) TR / TE = 600 / 14 ms, slice thickness 3, FOV 105 x 120, matrix 896 x 1024.
Transversal T1-weighted TSE TR / TE = 600 / 16 ms, slice thickness 3, FOV 60 x 100, matrix 624 x 1024 (interpolated).
Coronal Proton Density-weighted (PD) 3D VIBE with fat-suppression TR / TE = 3.84 / 10.9 ms, slice thickness 0.4 mm, FOV 108 x 100, matrix 580 x 640 (interpolated).
Contrast enhanced T1-weighted TSE with fat suppression TR / TE = 600 / 14 ms, slice thickness 3, FOV 105 x 120, matrix 896 x 1024 (interpolated).
***syngo* DTI:** For diffusion tensor imaging including tractography a single-shot EPI sequence with fat-suppression (SPAIR technique) was used: TR / TE = 8600 / 101 ms, slice thickness 2, FOV 60 x 160, 96 x 96 matrix, resulting voxel size of (1.7 x 1.7 x 2.0) mm^3, EPI factor of 36, PAT factor of 2 (*syngo* GRAPPA), two b-values (0 and 1000 s/mm^2), 30 diffusion directions, bandwidth 1302 Hz/Px. Apparent diffusion coefficient (ADC) maps as well as focal anisotropy (FA) and tensor maps were generated by the scanners online function.

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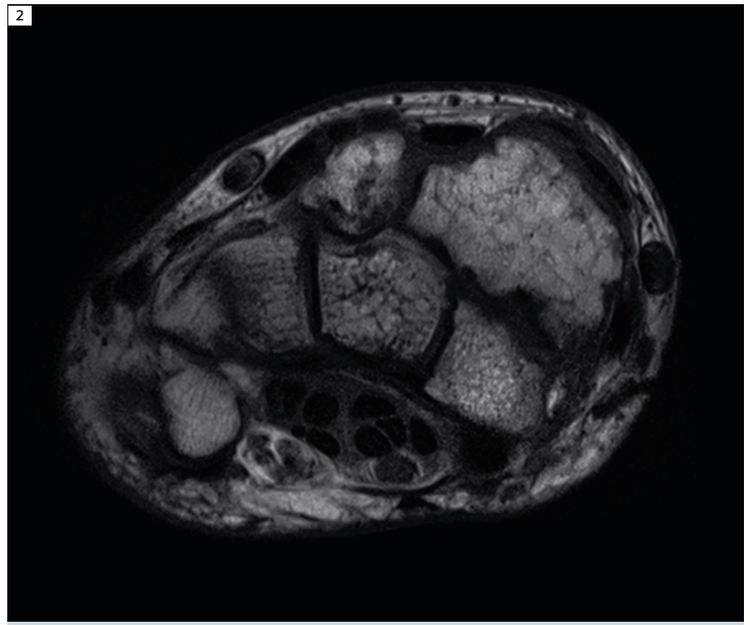
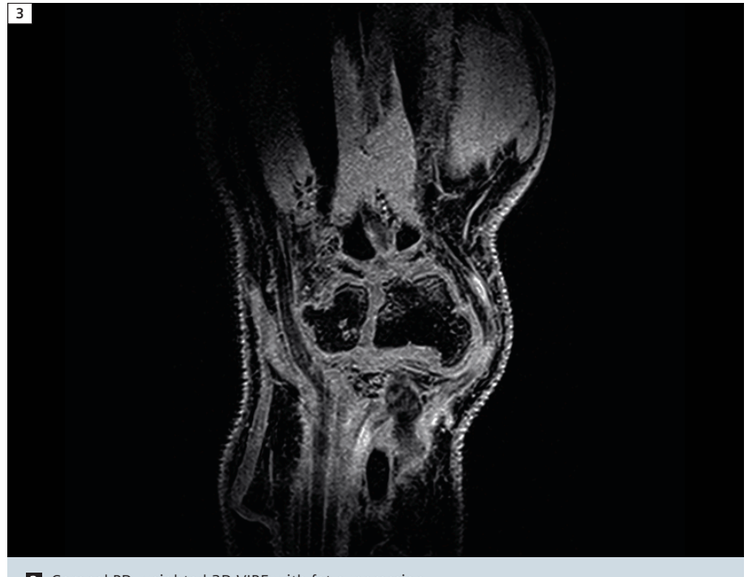
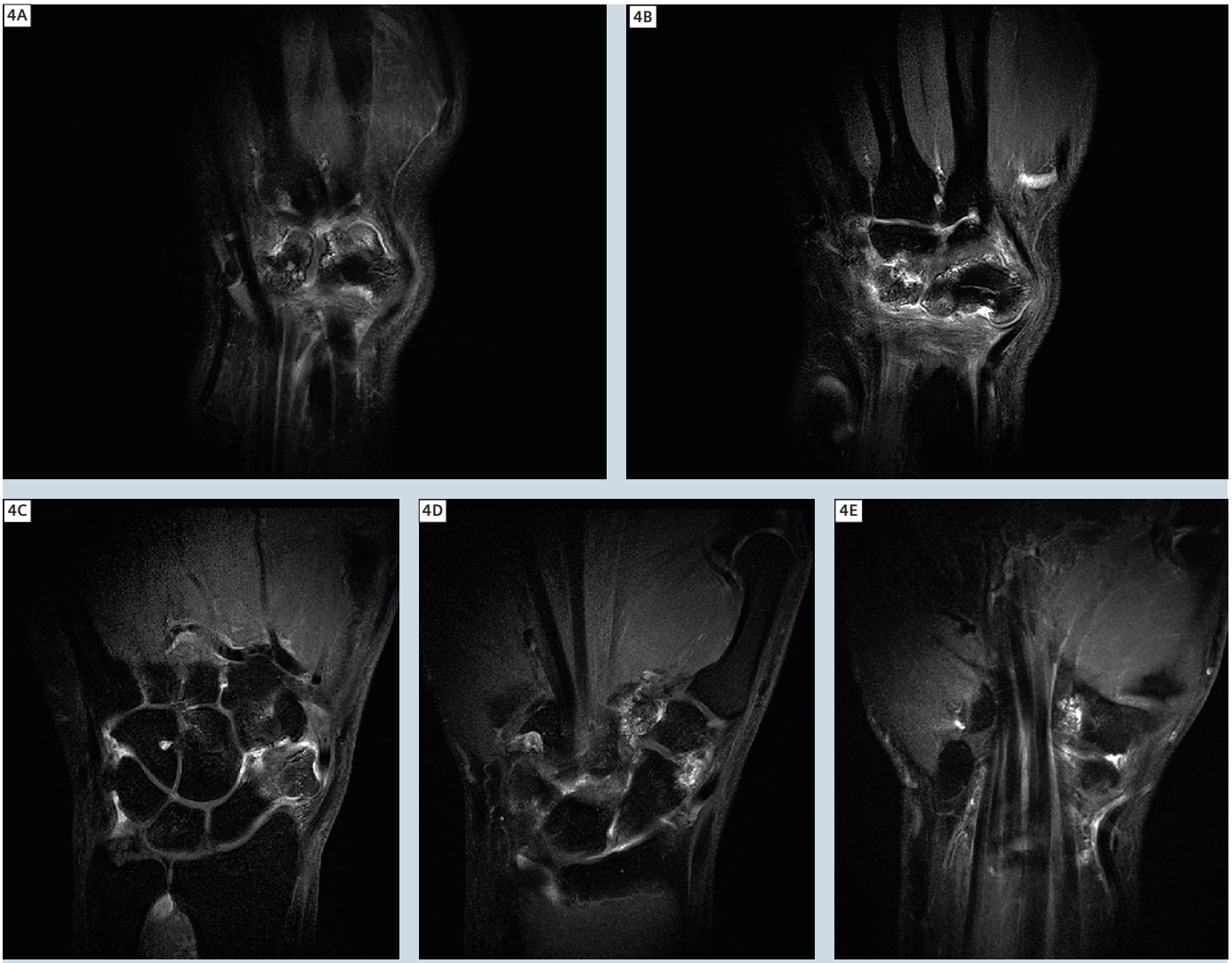


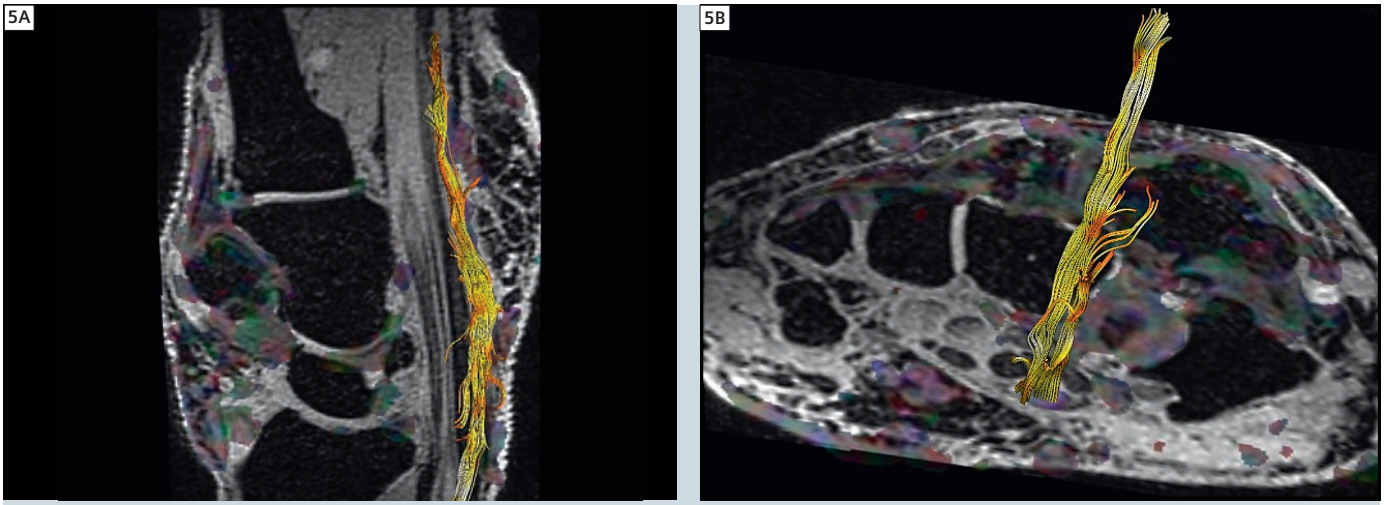
2 Transversal T1-weighted TSE.



3 Coronal PD-weighted 3D VIBE with fat-suppression.



4 Coronal PD-weighted 3D VIBE with fat-suppression.



5A, B Tractography of medianus nerve. **A:** sagittal, **B:** transverse oblique orientation.