MRI in X-linked adrenoleukodystrophy

Figure 1 MRI brain axial fluid-attenuated inversion recovery

Axial fluid-attenuated inversion recovery shows hyperintense white matter signal and generalized mild ventricular prominence.

Figure 2 MRI brain coronal image

Coronal T1-weighted fast spoiled gradient-echo image shows symmetrical abnormal linear contrast enhancement at the periphery of the white matter abnormality, characteristic of X-linked adrenoleukodystrophy.

A 45-year-old man with no medical history presented with behavioral changes. He was withdrawn from his family and friends. Home and finances had fallen into disorder. He was disheveled and incontinent of urine and feces. He lacked insight into his cognitive decline. His skin was bronzed and the examination was notable only for upgoing plantar responses. Peroxisomal fatty acid profile was elevated at C24:0 at 138.9 nmol/mL (normal <91/4), elevated C26:0 at 5.05 (normal <1.39), and elevated C26:0/C22:0 ratio at 0.062 (normal <0.023). Images show abnormal high signal on fluid-attenuated inversion recovery (figure 1) with enhancement (figure 2).

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