

Teaching Video NeuroImage: Aurora and Dusk of the Lentiform Fork Sign in a Patient With Reversible Dystonia

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The lentiform fork sign (LFS) is an uncommon imaging finding. Accepted hypotheses include vasogenic edema and metabolic acidosis affecting the lentiform nuclei.^{1,2} MRI imaging in a 46-year-old woman undergoing regular hemodialysis showed 3 stages of the LFS over 9 months. Her initial neurologic examination revealed severe dystonia (Video 1). Laboratory testing revealed mild compensated metabolic acidosis with nearly normal bicarbonate and anion gap (Table). MRI sequence scans demonstrated symmetric hyperintensities of the BG and hyperintense rim delineating the lentiform (Figure). This case demonstrates that LFS can exist without metabolic acidosis. Vasogenic edema is considered a likely underlying mechanism.

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MORE ONLINE

 Video

Teaching slides

<http://links.lww.com/WNL/B647>

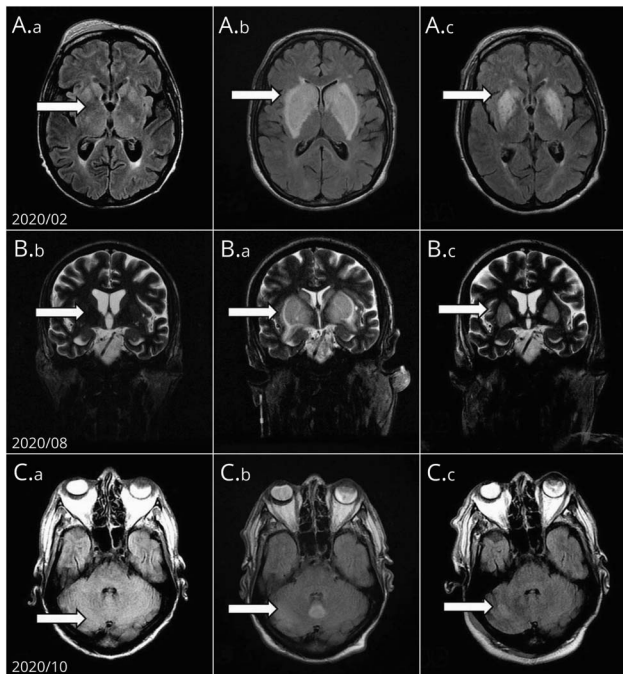
Table Central Laboratory Results

Laboratory	Timeline		
	2020/02	2020/08	2020/10
Glucose (mg/dL)	269	245	246
Sodium level (Na ⁺) (meq/L)	137, 0	129, 9	133, 3
K ⁺ (meq/L)	3, 7	6, 67	4, 91
ion Ca ⁺⁺ (mmol/L)	1, 11	1, 22	1, 17
Bicarb level (HCO ₃) (meq/L)	20, 4	19, 9	24, 7
Chloride level (Cl ⁻) (meq/L)	96	97	98
pH	7, 35	7, 398	7, 45
pO ₂ (mm Hg)	53, 1	66, 4	159, 5
pCO ₂ (mm Hg)	39.1	33	39, 8
BE (meq/L)	-5, 0	-4, 30	-0, 6
Anion gap (meq/L)	20.6	13	10, 6
Lactate (meq/L)	1, 2	5, 95	2, 65
Hgb (g/d)	9, 7	9, 6	11, 6
Hematocrit (%)	31, 5	28, 0	34, 0
Creatinine (mg/dL)	4, 93	7, 91	3, 79
Urea (mg/dL)	66	159	30

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Figure Brain MRI and the 3 Stages of LFS: 2020/02



Brain MRI axial T2- FLAIR and STIR-FSE A.a, B.a, C.a no evidence of the LFS; 2020/08—A.b, B.b, C.b bilateral, symmetric hyperintensities of the caudate, putamen, and thalamus, with the LFS, the hyperintense rim delineating the lentiform nucleus. (white arrowheads) and, 2020/10—A.c, B.c, C.c show an impressive reduction of the bilateral hyperintensities, and the LFS just vanished (white arrowheads).

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References

1. Hamed S, Mohamed K, Abd Elhameed S, et al. Movement disorders due to selective basal ganglia lesions with uremia. *Can J Neurol Sci.* 2020;47(3):350-365.
2. Fabiani G, Teive HA, Munhoz RP. Lentiform fork sign and fluctuating, reversible parkinsonism in a patient with uremic encephalopathy. *Mov Disord.* 2013;28(8):1053.

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