

Teaching NeuroImage: Bloomy Rind Sign of Leptomeningeal Carcinomatosis

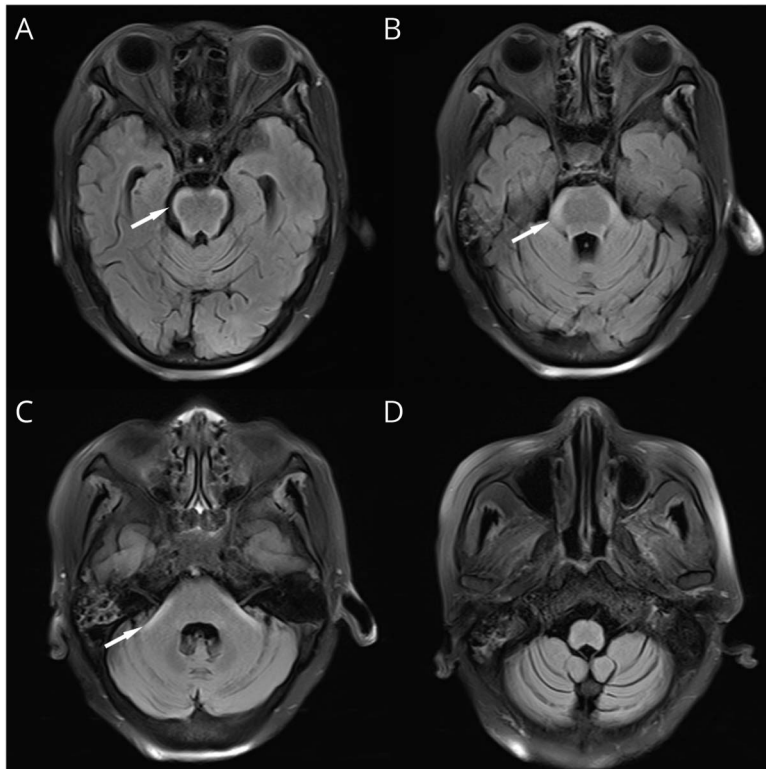
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Figure 1 Symmetrical Curvilinear Abnormality Along Surface of Midbrain (A), Pons (B), and Cerebellar Peduncles (C) in Axial Brain MRI Images, FLAIR Sequences at Admission (Arrows), While Medulla Was Relatively Intact (D)



A 68-year-old woman presented with vertigo, nausea, and vomiting for 3 days. She had lung adenocarcinoma with *EGFR* mutation (p.L858R) for 1 year and was in remission after osimertinib treatment. Neurologic examination revealed stiff neck, horizontal and vertical nystagmus, dysphagia, and bilateral Babinski signs. MRI revealed a symmetrical hyperintensity along the surface of the midbrain, pons, and cerebellar peduncles in T2, fluid attenuated inversion recovery, and diffusion-weighted imaging (Figure 1). T1 and apparent diffusion coefficient were normal, and there was no contrast enhancement. No significant supratentorial anomaly was found. CSF cytology identified cancer cells carrying *EGFR* mutation (p.L858R). We added bevacizumab to osimertinib. MRI 2 months later revealed thickened lesions expanded to the medulla and inner ears with hydrocephalus (Figure 2).

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Teaching slides

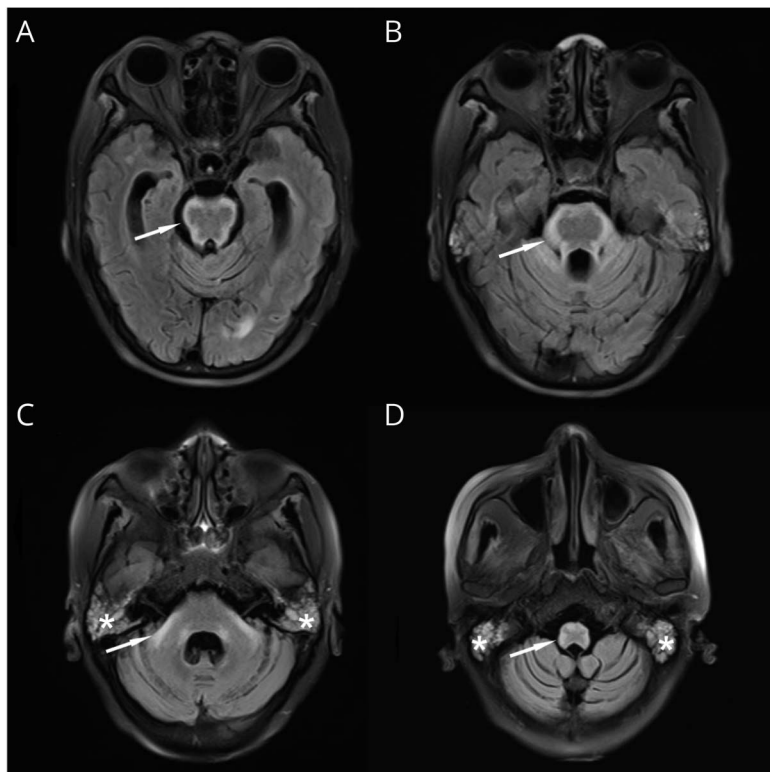
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Figure 2 Thickened Lesions Along Surface of Midbrain (A), Pons (B), and Cerebellar Peduncles (C) (Arrows), Which Expanded to Medulla and Inner Ears (D) (Asterisks) in Axial Brain MRI Images, Fluid Attenuated Inversion Recovery Sequences at Follow-up



The patient finally died because of respiratory failure. In leptomeningeal carcinomatosis, common MRI findings are linear enhancement of the sulci, leptomeninges, and nerve roots, whereas bloomy rind sign, possibly induced by tumor infiltration, cytotoxic edema, and microinfarction, is rare and characteristic.^{1,2}

Author Contributions

X. Liu: drafting/revision of the manuscript for content, including medical writing for content; major role in the acquisition of data; study concept or design; analysis or interpretation of data. C. Tan: drafting/revision of the manuscript for content, including medical writing for content; major role in the acquisition of data. Y. Zhu: major role in the acquisition of data. S. Li: major role in the acquisition of data. H. Lai: drafting/revision of the manuscript for content, including medical writing for content. F. Deng: major role in the acquisition of data; analysis or interpretation of data. L. Chen: major role in the acquisition of data; study concept or design; analysis or interpretation of data.

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