Rare Case of Metronidazole-Induced Encephalopathy in a Multiple Transplant Recipient: Clinical and Radiological Insights

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Introduction: Metronidazole is a widely used antibiotic used to treat various anaerobic infections. Metronidazole-induced encephalopathy (MIE) is a rare but significant central nervous system (CNS) adverse effect.

Case presentation: We report the case of an 18-year-old male with a history of liver, small bowel, and pancreas transplantation and chronic liver failure, maintained on long-term metronidazole for recurrent C. diff colitis and post-transplant ulcerative ileitis. The patient developed slurred speech and unsteadiness following a recent increase in metronidazole dosage. A magnetic resonance imaging (MRI) of the head showed multifocal areas of diffusion restriction and T2 hyperintensity in the splenium of the corpus callosum, dentate nuclei, inferior colliculi of the midbrain, and pontine tegmentum bilaterally, consistent with MIE. Metronidazole was discontinued, leading to a gradual improvement in symptoms and complete resolution of MRI abnormalities on follow-up.

Discussion: This case highlights the importance of recognizing MIE as a potential adverse effect of metronidazole, particularly in patients on long-term therapy with recent dosage increases. Further studies are needed to better understand the mechanisms, risk factors, and optimal

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management of MIE. Conclusion: Early discontinuation of metronidazole can lead to significant clinical and radiological improvement.

Keywords: Metronidazole, Encephalopathy, Transplant Recipients, Metronidazole-induced encephalopathy

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