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RETROGRADE AMNESIA FOLLOWING AUTOIMMUNE LIMBIC ENCEPHALITIS

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Limbic encephalitis with antibodies to the voltage-gated potassium channel-complex (VGKC-LE) is now a well-established neurological syndrome. Recent work demonstrates many patients suffer from persisting anterograde amnesia following the resolution of VGKC-LE. However, no detailed assessment of retrograde memory, episodic or otherwise, has yet been undertaken. We assessed 14 VGKC-LE patients and 14 age-matched controls were assessed on a detailed measure of retrograde episodic memory (the Autobiographical Interview). One episodic memory was obtained from each decade of life (six in total). The results show that VGKC-LE patients had significant deficits in episodic recall across the most recent 40 years of their life, in the context of preserved personal semantic memory (as measured by the Autobiographical Memory Interview). Moreover, ultra-high field magnetic resonance imaging suggests that VGKC-LE is associated with focal hippocampal atrophy. These data demonstrate that retrograde amnesia is common post-VGKC-LE and is a clinically relevant feature of the syndrome. Moreover, these results have implications concerning the neurobiology of episodic memory retrieval by providing evidence to demonstrate that the hippocampus is crucial to episodic retrieval, independently of mnemonic remoteness. These results challenge the standard model of memory consolidation, and we discuss the implications of our results for neurobiological models of memory.