LETTER TO THE EDITOR

# Levetiracetam (Keppra), urinary retention and literature search

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To the Editor

Levetiracetam (Keppra) is being used to treat epilepsy and has been available as a generic drug in the UK since 2011. Its adverse effects primarily include effects on the central nervous system (somnolence, headache, dizziness, coordination difficulties, etc.) and mild neuropsychiatric symptoms (apathy or agitation, anxiety, depression, etc.).[1,2] Urinary retention has not been previously reported.

A 40-year-old man with epilepsy and mental retardation was admitted following recurrent seizures. His drug history included levetiracetam (Keppra) 1000 mg twice daily and topiramate (Topamax) 100 mg twice daily over the last eight months. He was also taking tamsulosin 0.4 mg once daily started more recently for lower urinary tract symptoms ascribed to benign prostatic hypertrophy. On admission seizures were controlled with intravenous diazepam and valproate but he had urinary retention of 1200 ml which required catheterisation. His physical examination, blood tests and urinalysis were normal. When the catheter was removed, painful urinary retention of 1000 ml soon recurred and the patient had to be catheterised again for several days. However, the prostate appeared normal to palpation and ultrasound imaging (2.8 x 2.8 x 3.6 cm, ~15 g). Suspecting that the urinary retention was drug-induced we researched this adverse event in PubMed for each of his anticonvulsive drugs. Zero hits were found and the association was considered non-existent. To our surprise, our intern who attempted a plain language Google search ('Could Keppra cause urinary retention?') immediately found a site of personalised health information (eHealthMe) that reported 19,957 people who had adverse effects when taking Keppra. Among them, 74 (0.37%) had urinary retention, at various ages and times on the drug. We decided to stop Keppra (half-life 6-8 hours) and remove the urinary catheter one day later. The patient was overjoyed and grateful and reported freely flowing urine. Post-voiding ultrasound confirmed minimal residual urine (40 ml). A re-challenge was judged to be unethical. He was discharged on Topamax and phenytoin and remained asymptomatic at subsequent follow-up visits.

Our observation suggests that urinary retention is a rare, seldom-reported adverse event of levetiracetam (Keppra). The calculated Naranjo's causality rule[3] yields a score of 5-8, consistent with a probable adverse drug reaction. No less intriguing is the finding that an informed application of the 'Wisdom of Crowds' accessed through a Google search may be used to advantage in clinical decision-making, albeit with caution. Another reliable source of information is the European Database of Suspected Adverse Drug Reactions Reports (EMA). It currently includes 5004 reports associated with the use of Keppra in patients over the age of 18; none mention urinary retention. In fact, our experience reiterates the need for a more comprehensive reporting of adverse drug events to official drug surveillance systems such as a national pharmacovigilance centre or EMA.

## DISCLOSURES

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## REFERENCES

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