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Urolithiasis in four pediatric patients on high dose felbamate

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Purpose: We report four cases of felbamate urolithiasis. To date, we have found only one prior case report of a felbamate stone in 2001. All patients had refractory seizures and were on high doses of felbamate. Three of the four had severe developmental delay. Felbamate is an antiepileptic drug used to treat refractory seizure disorders. Apart from rare occasions of aplastic anemia and hepatic dysfunction it is considered to have minor side effects when given in recommended doses. We look at the characteristics, evaluation, management, and outcomes of this difficult group of patients. In one case, the stone was incorrectly analyzed at an outside reference lab and in a second case the stone was initially labeled nonspecifically as a possible drug metabolite. This suggests the possibility that the origin of these stones may be under diagnosed or mislabeled.

Materials and Methods: This is an IRB approved retrospective chart review of all patients who presented through our institution with a diagnosis of urolithiasis, were on felbamate, and had a stone analysis consistent with felbamate or its metabolites.

Results: Three of the four patients were afflicted with severe developmental delay and all had refractory seizures that could only be controlled with high doses of felbamate. Presentation ranged from an incidental finding to gross hematuria to agitation and pain. Stones were not visible on plain x-ray with the exception of one patient who had a mixed stone composition of felbamate and calcium phosphate. All patients required instrumentation. Decrease or cessation of the drug has not been feasible in two of the four cases and recurrences have occurred.

Conclusions: Felbamate stones are a rare occurrence found in a difficult group of patients with severe developmental delay and refractory seizures requiring the use of high dose felbamate therapy. Accurate diagnosis is made more difficult by the clinical complexity of the patient population, the radiolucent nature of the stones, and the possibility of inaccurate analysis of the stone composition in some cases.

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