

AB177. 119. Seasonal variation in the acute presentation of nephrolithiasis and its association with meteorological factors

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Background: A seasonal variation in the frequency of acute stone presentations has been observed in studies from the US, Africa and Asia. The increased incidence of nephrolithiasis during periods of warm weather has been attributed to both the dehydrating effect of elevated temperatures and the vitamin D related increase in calciuria during periods of increased sunshine. The aim of this study is to establish whether the association between various meteorological parameters and the frequency of nephrolithiasis also exists in a European climate.

Methods: All CT kidneys, ureters and bladder (CTKUB) scans performed by Emergency Departments within the Dublin Midland Hospital Group between June 2017 and September 2018 were identified from the national radiological database. The date of scan in addition to stone parameters (site, size, side) were recorded. This data was then correlated with weather recordings obtained from the Irish meteorological office.

Results: A total of 2,441 patients were investigated for suspected renal colic during the study period of which 781 were confirmed to have ureteric stones. An increased frequency of acute nephrolithiasis was observed during the summer months of both years (June, July, August). Unexpectedly, the heatwave of summer 2018 was not associated with an increased frequency of nephrolithiasis compared with summer 2017.

Conclusions: There is an increased frequency of acute nephrolithiasis during the summer months in Ireland. Healthcare services should be tailored to expect an increase in service needs during these periods of increased activity.

Keywords: Nephrolithiasis; renal colic; service provision

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