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Abstract (poster session)

A 5-year retrospective review of patients with norovirus infection: factors associated with prolonged viral shedding

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Objectives: Norovirus gastroenteritis is a leading infection control problem. Existing UK guidelines recommend isolation/cohorting of individuals for 48 hours after symptom resolution and ward closure for 72 hours after the last new case. Individuals with norovirus gastroenteritis continue to shed virus in their stool after acute infection, but the factors which determine the duration of shedding are not established. We aim to determine which factors may be associated with prolonged viral shedding. **Methods:** We retrospectively reviewed all patients with norovirus diagnosed by RT-PCR in stool or vomit at the Royal Liverpool University Hospital between 2006 and 2011. Inclusion criteria was the detection of norovirus in stool or vomit on >1 occasion >1 day apart to be able to assess duration of shedding. Discharge summaries and laboratory records were reviewed and key demographic details, past medical and medication histories were collated. To compare the duration of viral shedding depending on exposure to various factors (age, sex, past medical and medication history) we calculated incident rate ratios (IRR) using negative binomial regression. Significant factors on univariable analysis were included in a stepwise multivariable negative binomial regression model to determine which factors were independently associated with duration of viral shedding. **Results:** 849 cases were identified of which 53 met the inclusion criteria, 49% male, with a median age of 77 years (range 33-98). The median duration of viral shedding was 8 days (range 3-90), 50% of cases shed norovirus for <10 days, while 25% shed for >3 weeks. 29.8% were on immunosuppressant therapy. On univariable analysis younger age, immunosuppressant therapy and renal transplant were associated with prolonged viral shedding. However, on a multivariable regression model only immunosuppressant therapy and younger age remained significant factors. **Conclusion:** Current guidelines may not be adequate to prevent secondary nosocomial norovirus infection due to extended viral shedding. Younger patients and those receiving immunosuppressive therapy may have delayed clearance of norovirus infection. The role of prolonged shedding in secondary transmission of norovirus requires further investigation. Limitations of this study include retrospective analysis and a strong bias towards cases with persistent symptoms.