Service evaluation of the clinical value of routinely testing stools for rotavirus antigen in a regional pediatric oncology unit

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Background & Objectives: Diarrhea is common in pediatric oncology patients caused by non-infective or infective factors. Rotavirus is historically the most common pathogen causing diarrhea. However, although stool samples are commonly sent for virology, the value of testing in pediatric oncology patients with diarrhea is unclear. We conducted a service evaluation to estimate diagnostic yield of rotavirus testing in pediatric oncology patients. It was felt important to undertake this review following the introduction of UK-wide rotavirus immunization in July 2013.

Design & Methods: Computerized microbiology records at Alder Hey Children’s Hospital from January 2010 to December 2016 (seven years) were reviewed retrospectively to examine stool testing for rotavirus antigen detection in patients treated at a Regional Pediatric Oncology Unit. This review focused only on rotavirus as testing for other viruses were not consistently undertaken. If repeat samples were submitted for testing within a two-week period, it was assumed to be part of the same episode and testing was not performed.

Results: A total of 1118 samples were reviewed. After rejecting repeat samples taken within two weeks, a total of 819 samples formed the basis for the analysis. Of these 819 samples, 46 (5.6%) were positive for rotavirus from a total of 38 patients (age 0-19 years, 19 male; 19 female). The results by year (positives/numbers tested and percentages) were as follows: 2010 (15/141, 10.6%), 2011 (10/143, 6.9%), 2012 (6/132, 4.5%), 2013 (8/158, 5.1%), 2014 (5/123, 4.1%), 2015 (0/68, <0.1%) and 2016(1/54, 1.9%).

Conclusions: A comprehensive service evaluation of all stool tests performed for rotavirus performed in pediatric oncology patients during a 7-year period has demonstrated that the incidence of rotavirus positivity has diminished since the introduction of rotavirus immunization with only one positive test out of 122 samples in 2015/2016. Based on these results, we suggest there is very little utility for routine rotavirus testing in children and young people with cancer presenting with diarrhea.

Biography
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