

CLINICAL CAPSULES

Norovirus Shed Long After Symptoms

Infants younger than 6 months of age continued to shed norovirus more than a month after the onset of gastroenteritis and after their clinical symptoms had resolved, Toshio Murata, Ph.D., of the Yamagata (Japan) Prefectural Institute of Public Health, and associates reported.

To investigate the duration of shedding in infants and young children, the investigators tested fecal specimens from 71 children aged 0-3 years who were infected with norovirus. Follow-up data were available for 23 children (8 younger than 1 year, 7 aged 1 year, and 8 aged 2-3 years).

The median period of viral shedding in the 5 patients aged 6 months and younger was significantly longer than in patients older than 1 year (42 days vs. 10 days).

Although 3 of 5 patients aged 6 months and younger shed norovirus for more than 40 days, they showed no symptoms of gastroenteritis during the postrecovery period (Pediatr. Infect. Dis. J. 2007;26:46-9).

Overall, the mean duration of illness was 5 days and the median duration of norovirus shedding was 16 days. But 6 of 8 children (75%) younger than 1 year were still shedding norovirus more than 2 weeks after the onset of gastroenteritis, compared with 5 of 7 children (71.4%) aged 1 year and 2 of 8 (25%) children aged 2-3 years.

The data support the need for caution when handling the excrement of infants and young children with gastroenteritis, even after they appear to have recovered, the researchers noted.

Few Saw Need for 2nd Varicella Dose

A majority of 610 primary care physicians surveyed before the recommendation for a second dose of varicella vaccine said that the current level of breakthrough varicella disease in their practices was acceptable, Dr. Matthew Davis of the University of Michigan, Ann Arbor, and his associates reported.

Although varicella vaccination rates in the United States reached 88% by 2004, the number of reported cases has remained steady during the past 3-4 years; the effectiveness of the vaccine has been from 70% to 90%, according to recently published outbreak investigations. In 2006, the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices (ACIP) recommended a second dose of varicella vaccine for children.

To assess the opinions of primary care physicians about the value of a second dose, Dr. Davis and his colleagues surveyed a national sample of primary care pediatricians and family physicians between April and June 2005. The 610 surveys included 342 pediatricians and 268 family physicians (Pediatrics 2006;119:258-64).

Overall, 82% of the survey respondents said they "strongly recommend" the single-dose varicella vaccine for children aged 6 years and younger. Although 79% of respondents had reported breakthrough varicella cases in recent years, 71% of these physicians agreed that the level of breakthrough cases was acceptable.

Only 38% of respondents indicated that a second dose of the varicella vaccine was needed to control the breakthrough cases, whether they had seen such cases in their practices or not. However, 53% of re-

spondents said they would likely recommend a second dose of varicella vaccine if it were recommended by ACIP.

Repeat Cultures Unnecessary in UTIs

Additional urine cultures are not necessary to confirm cure in children with urinary tract infections who have been treated with antibiotics, Dr. Nicolas Oreskovic and Dr. Eduardo Sembrano of Mount Sinai Hospital in New York reported.

Urine cultures are uncomfortable for patients, and they are expensive for hospitals. To determine the clinical value of repeat-

ing urine cultures after antibiotic therapy, the investigators reviewed data from 328 children younger than 18 years of age who were hospitalized with urinary tract infections (UTIs) between December 1998 and December 2004 and who underwent repeat urine cultures after 2 days of intravenous antibiotics (Pediatrics 2007;119: [Epub doi:10.1542/peds.2006-1134]).

Only one patient (0.3%) had a positive repeat urine culture—a 7-month-old boy who was diagnosed with a UTI and bronchiolitis. The child was allergic to amoxicillin and received trimethoprim-sulfamethoxazole. His admission culture showed *Escherichia coli*, but this informa-

tion was not known immediately. He was subsequently treated with cefaclor, and a follow-up culture 2 days later was negative.

A repeat urine culture may be appropriate in children who do not show clinical improvement after 48 hours of antimicrobial therapy, but many pediatricians routinely reculture UTI patients after 2 days to obtain a "proof of bacteriologic cure."

The study was limited by its retrospective nature, but the results support findings from previous studies suggesting that routine reculturing of children with UTIs who have been treated with antibiotics is unnecessary, the researchers wrote.

—Heidi Splete

ADVERTORIAL

MISMATCH MISCHIEF: THE IMPACT OF DRIFTED INFLUENZA STRAINS

Influenza vaccines have been available for over half a century. Yet year after year, influenza continues to place a huge burden on society—both in children and in adults.¹ Influenza affects between 5% to 20% of the US population every year, resulting in up to 25 million doctor visits and over 200,000 hospitalizations.^{2,4}

One factor contributing to influenza's heavy toll is vaccine mismatch.⁵ Each year the World Health Organization (WHO) selects influenza strains for the vaccine well in advance of the flu season. Vaccine mismatch occurs when the circulating strains do not match those chosen for the vaccine.

VACCINE MISMATCH—FREQUENCY AND SEVERITY

Mismatched strains occur frequently and may cause severe consequences⁵:

Season	Vaccine Strain	Drifted Strain	Drifted in Mismatched Type
2005-2006	B/Shanghai	B/Victoria	81%
2004-2005	A(H3N2)/Wyoming	A(H3N2)/California	78%
2003-2004	A(H3N2)/Panama	A(H3N2)/Fujian	89%
2000-2001	B/Beijing	B/Sichuan	89%
1997-1998	A(H3N2)/Wuhan	A(H3N2)/Sydney	81%

- Vaccine mismatch has occurred in 5 of the last 10 influenza seasons⁵⁻⁹
- During the 2003-2004 influenza season, when 89% of circulating A-strains were mismatched, 153 children—nearly half of whom were previously healthy—died from influenza-related causes¹⁰
- In one study, children under age 5 had **nearly twice** as many influenza-associated outpatient clinic visits and **more than 4 times** as many influenza-associated emergency room visits in the mismatched season of 2003-2004 than in the matched season of 2002-2003¹¹

MISMATCH MAY DIMINISH VACCINE EFFICACY¹²

In one study during the 1998-1999 influenza season, when vaccine strains and circulating strains were well-matched, the efficacy of the inactivated influenza vaccine against laboratory-confirmed influenza in healthy adults was 86%. During the 1997-1998 season, when the vaccine and circulating strains were mismatched, the efficacy of inactivated vaccine was just 50%.¹²

MedImmune is a biotechnology company committed to helping reduce influenza morbidity and mortality and to developing innovative solutions to improve vaccination strategies.

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