Day-Care Infections Up Short Term, Down Later

BY MARY ANN MOON

FROM THE ARCHIVES OF PEDIATRICS AND ADOLESCENT MEDICINE

Children who attend large day-care programs before age 2 1/2 years show a short-term increase in the number of infections they acquire but are protected against infections during the elementary school years.

"This study provides reassuring evidence for parents that their choices regarding child care (group size and age at enrollment) should not have a major effect on the health of their children from a long-term perspective, at least regarding respiratory tract infections, gastrointestinal tract infections, and ear infections," said Sylvana M. Côté, Ph.D., of the department of social and preventive medicine, Ste-Justine Hospital, Montreal, and her associates.

"Physicians may reassure parents whose children initiate large group child care early that their child's experiencing infections is temporary and is likely to provide them with greater immunity during the elementary school years," they noted.

Dr. Côté and her colleagues performed what they described as the first prospective, population-based study to examine the associations between different day-care experiences and three types of infections from early preschool age through mid-elementary school age. They used data from the Quebec Longitudinal Study of Child Development to follow a representative sample of 1,238 study subjects every year from 5 months of age in 1998 through 8 years of age in 2006.

The researchers statistically controlled for potentially confounding variables such as maternal education level, maternal health status, low birth weight, breastfeeding status, ethnicity, and family size.

In all, 244 children (approximately 20%) were cared for at home and did not attend day care of any size before enrolling in school. An additional 402 children (32%) attended a small, home-based day-care program for 3-8 children younger than age 2 1/2, while 249 (20%) attended a large day-care program (up to 10 groups of 8-12 children per "class") before age 2 1/2. The remaining children attended either small or large day-care programs after age 2 1/2.

Compared with home-cared children, those who started large day-care programs early in their preschool years had higher rates of respiratory and ear infections around the time they enrolled. However, they did not have higher rates of respiratory and ear infections at ages 3-4. More important, they had lower rates of such infections during the elementary school years, a time "when absenteeism carries more important consequences," the investigators said (Arch. Pediatr. Adolesc. Med. 2010;164:1132-7).

Children who started large day-care programs later in their preschool years had higher rates of respiratory and ear infections at that time, but did not differ from home-cared children at any other time.

Children who started small day-care programs in either their early preschool years or late preschool years did not differ from home-cared children at any time. It thus appears that large day-care programs protect against future infections while small programs do not, perhaps because the large programs "provide exposure to a larger number of serotypes (and infectious agents) and … this wider exposure is necessary for preschoolers to acquire immunity," Dr. Côté and her associates said.

Day care was not associated with gastrointestinal infections at any developmental period.

When the data were analyzed across the entire study period up to age 8 years, there was no difference in the overall number of infections between children who attended only home care before elementary school and children who attended either type of day care before elementary school.

This study was supported by the government of Quebec, Fondation Chagnon, Fond Québécois de la Recherche sur la Société et la Culture, Fonds pour la Recherche en Santé du Québec, Social Science and Humanities Research Council of Canada, Canadian Institutes for Health Research, Ste-Justine Hospital's Research Center, and the University of Montreal. No financial conflicts of interest were reported. ■

Let Fungus Type, Site of Infection Drive Tx Decision

BY LAIRD HARRISON

EXPERT ANALYSIS FROM A PEDIATRIC UPDATE

LAS VEGAS – Competition among large retailers is bringing down the cost of terbinafine, but griseofulvin is still better for many fungal infections, according to Dr. Lawrence F. Eichenfield.

The ideal prescription depends on the type of fungus and the site of the infection, Dr. Eichenfield, chief of pediatric and adolescent dermatology at the University of California, San Diego, said at the update, sponsored by the American Academy of Pediatrics California Chapter 9.

Topical medications alone can seldom cure tinea capitis because the fungus finds protection inside hair follicles, but he advised using them in combination with systemic drugs.

Signs of tinea capitis include scaling, pustules, kerion, black dots, alopecia, adenopathy, and autoeczematization (also known as id reaction). The condition can resemble seborrheic dermatitis, psoriasis, folliculitis, and other diseases.

"So it's worth doing a routine culture," said Dr. Eichenfield, adding that it's fairly easy to obtain a specimen with a toothbrush, cotton swab, or bacterial culturette.

The most common culprit is *Trichophyton tonsurans*, spread by human contact. The second most common cause is *Microsporum canis*, spread by cats.

Family coinfection can contribute to treatment failure, so inquire about tinea capitis and tinea corporis in other affected family members and pets, said Dr. Eichenfield. Standard therapy for tinea capitis is microsized griseofulvin (20 mg/kg) for 6-8 weeks, he advised.

The only other approved drug is terbinafine granules, and these are hard to obtain, he said, but itraconazole and fluconazole might work.

'So it's worth doing a routine culture' for tinea capitis.

DR. EICHENFIELD

Particularly if griseofulvin fails, Dr. Eichenfield recommended terbinafine 4-8 mg/kg per day for 4 weeks. But one study found that griseofulvin was much better than terbinafine for *M. canis* (J. Am. Acad. Dermatol. 2008;59:41-54).

The same organisms, along with *T. rubrum* and *T. mentagrophytes,* can cause tinea corporis. Patients present with red scaling plaque, often with an active border. Central clearing may give the lesions a ring shape. They can be treated with topical drugs, including clotrimazole, econazole, oxiconazole, ciclopirox, terbinafine, and ketoconazole.

Systemic treatment should be reserved for extensive disease or special circumstances, such as for wrestlers. The best systemic treatment is griseofulvin, 15-20 mg/kg (5-10 mg/kg ultramicrosize), he said.

Dr. Eichenfield said he had no relevant financial disclosures. ■