**CRITICAL CARE**

**Attitudes Toward Life Support in the PICU**


This prospective survey was conducted in a single pediatric intensive care unit (PICU) at Children's Hospital, Seattle, WA, over a 6-month study period. All caregivers (nurses, residents, fellows and attending physicians) filled out a survey form if the caregiver thought that limitation of life-sustaining care was appropriate for a patient in the unit. Demographic and clinical information was collected along with caregiver attitudes relating to the types of care that should be limited and the reasons given by the caregiver to justify limiting life-sustaining care.

There were 503 children admitted to the PICU during the study period. Sixty-eight nurses and 45 physicians participated (10 PICU and pediatric anesthesia fellows, 24 pediatric and anesthesia residents, and 11 PICU attendings). At least 1 caregiver thought that life-sustaining care should be limited for 63 of the 503 PICU patients. Among these 63 patients, 26 (41%) had limits placed on medical support and 11 (42%) died. The remaining 37 patients did not have limits established with the family and 6 children (16%) died while receiving full medical support. No patient had care limited when only 1 team member thought it appropriate.

Among the children who died in the PICU, 53% had limits placed on their medical care prior to death. Caregivers most frequently wished to limit invasive care (e.g., cardiopulmonary resuscitation [94%] and hemodialysis [83%]). Nurses were more likely to support limitation of mechanical ventilation and antibiotics than physicians. The most common reasons identified for limiting support included burden of continued medical intervention exceeding benefit (88%) and the impossibility of restoring a reasonable quality of life (83%). Inappropriate use of resources was frequently cited as a reason to limit care (72%), but was never listed as the sole reason to limit care. Preadmission quality of life was cited less frequently (50%) as a reason to limit medical intervention. Children with chronic illness were significantly less likely than previously well children to have limits placed on their care. Limitation of care was always discussed with the family. The PICU attending (58%) or the child's primary physician (21%) usually initiated these discussions.

**Editors' Note**

Hopefully, no limits are being set on the primary care pediatrician’s participation in the ICU care team. If you are not a part of that team, show the PICU staff this study and offer your expertise and willingness to participate in decisions relating to limiting life-sustaining care.

**References**


**DERMATOLOGY**

**Itraconazole for Dermatophyte Onychomycosis**


In this retrospective study, the authors evaluated the therapeutic response to pulse itraconazole therapy in 17 children (age range 3-14 years, 9 boys) with onychomycosis who presented to a pediatric dermatology clinic in Chicago, IL, between January 1995 and June 1998. Dermatophyte infection was confirmed by a potassium hydroxide preparation or fungal culture. Patients with underlying skin diseases that could affect the nail (e.g., psoriasis) were excluded. Itraconazole (in capsule form) was administered at a dose of...
5 mg/kg daily for 7 consecutive days, once each month, for 3 to 5 months depending on clinical response. All patients had at least 1 follow-up visit within 3 months of initiating treatment and most were evaluated at 6 months. Prior to data analysis, telephone contact was made to assess long-term outcome. Clinical cure was defined as normal-appearing nails after itraconazole treatment; those with signs of onychomycosis and a positive culture following therapy were considered to have relapsed.

Nail changes were present for 2 months to 5 years (mean 10.8 months) before study entry. Eight patients had active or past tinea pedis and 10 had at least 1 first degree relative with nail changes. Prior unsuccessful treatments included oral griseofulvin (1 patient) and a topical antifungal (10 patients). Toenails only were involved in 15 patients; 2 had involvement of toenails and fingernails. Eight children received a 3-month course of itraconazole, 6 received 4 months, and 3 received 5 months. Sixteen of 17 patients experienced a clinical cure; 7 were cured after 3 pulses. No adverse effects were reported, although laboratory studies were not performed. The authors conclude that pulse itraconazole therapy is both safe and effective in the treatment of dermatophyte onychomycosis in children and is preferable to griseofulvin.

**Commentary by Daniel P. Krowchuk, MD, FAAP**

Infection of the nails by dermatophytes is uncommon prior to puberty but, as illustrated by the present study, the risk is increased when an adult family member has onychomycosis.1 Because topical antifungals do not penetrate the nail plate well, they generally are ineffective except in children with very mild or superficial infections.2 Although griseofulvin has been the oral agent of choice for many years, its cure rate is low, the relapse rate high, and prolonged treatment (eg, 9 to 12 months) is required. In contrast, when used daily for 3 months to treat toenail infection, newer antifungal agents such as terbinafine and itraconazole have a cure rate of approximately 80% and a relapse rate of 10% to 12%.3 Owing to its extended tissue half-life, itraconazole may be administered in a pulsed fashion. The present study confirms that this dosing schedule is effective in the treatment of children with onychomycosis caused by a dermatophyte. While experience with its use in children is limited, itraconazole appears to be well-tolerated except for diarrhea that may result from the cyclodextrin solubilizer employed in the suspension.1,2,3 Itraconazole also has important interactions with a number of drugs, including those metabolized by the cytochrome P-450 3A4 enzyme system, such as astemizole (Hismanal) and cisapride (Propulsid). In view of this, and because itraconazole is comparatively more expensive for the treatment of onychomycosis, some clinicians favor terbinafine for the treatment of onychomycosis, which requires continuous dosing for 6-12 weeks and also has interactions with a number of drugs including cimetidine and rifampin.4

**References**


**CHILDREN WITH DISABILITIES**

**Secretin and Autism**


In part one of this study performed in a pediatric neurology practice, 56 children with autism or pervasive developmental disorder (PDD) were entered into an open-label trial of the gastrointestinal hormone secretin which has been anecdotally reported1 to produce dramatic improvement in children with autistic spectrum disorders. A modification of the Childhood Autism Rating Scales (CARS) was administered by the same parent, both pre- and post-infusion. Some minimal but potentially significant changes in GI symptoms, language and social relatedness were reported for those children who were more severely involved at the start of the study and the authors hypothesized that this may represent “regression towards the mean.” In part two of this study, 23 children with autism/PDD were entered into a double-blind crossover design to assess the impact of secretin on autistic behavior. There were no statistically significant group differences between secretin and placebo.

**Commentary by Pasquale Accardo, MD, FAAP**

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Although this paper is in agreement with a previous report that noted no effect of secretin on autistic spectrum disorders,2 the complexity of the issue is reflected in the editorial3 that precedes and the comment4 that follows this paper which cast its negative data in a positive light. One major limitation of all studies on the effect of secretin on autism is the absence of reliable measures of short-term change in a population of autistic children. None of the secretin studies reported so far has looked at detailed measures of pragmatic language. For that matter, there is little agreement on how to best measure change in autistic children even when assessing the use of behavioral interventions extending over years. More sensitive measures of behavioral change are needed to assess secretin and, for that matter, any neuropsychopharmacological agents, intended for use in autism/PDD. No one has been able to replicate any dramatic improvement in children with autism/PDD who are given secretin. It is possible a subpopulation of children with autism/PDD exists who may respond to secretin. However, until blinded studies can identify such a group, secretin cannot be recommended for routine clinical use. Pediatricians can be comfortable with the negative reassurance of “not proven.” (This “not proven although we’ve really tried” is much stronger than “not proven because we haven’t yet gotten

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