Since the discovery and clinical implementation of subcutaneous insulin therapy in the early 1920s, the scope and complexity of clinical diabetes has expanded considerably. Two of the most challenging issues we face as clinicians include insulin resistance within the context of types 1 and 2 diabetes, as well as the management of patients with cystic fibrosis (CF)-related diabetes. Children who are insulin resistant can present with various metabolic issues including hypertension and dyslipidemia (hypertriglyceridemia), not to mention liver disease ranging from steatohepatitis to glycogenic hepatopathy.

The topically based articles in this issue of Pediatric Annals examine pediatric diabetes and its many facets in conjunction with obesity. CF-related diabetes is compounded because patients are suffering simultaneously from two chronic and dangerous medical disorders. For example, patients with CF are encouraged to ingest a calorie-rich diet without thought to schedule; however, insulin-dependent diabetes requires strict carbohydrate counting and consistent ingestion of those calories due to the pharmacokinetics of subcutaneous insulin. The first article, “Cystic Fibrosis–Related Diabetes in Children: An Update,” by Dr. Roy J. Kim provides a thorough review on the screening, diagnosis, and treatment of this two-pronged condition.

Without an understanding and blending of these two approaches, control and improved long-term outcome of either disorder is impossible.

Given the demands and difficulties on families to enact recommendations to control diabetes in their children, Drs. Christy Foster, Jayne Bellando, and Yu-Chi Annie Wang have provided an article entitled “Diabetes Control and Adherence in Adolescence.” The article overviews behavioral approaches to therapy and introduces the process of transitioning pediatric patients to an adult provider as they pass adolescence.

The Case Challenge articles highlight the differences in treatment of hypertriglyceridemia in children with varied presentations. The first case, “An 8-Year-Old Boy Presenting with Eruptive, Pruritic Rash and Cough” by Heather Cantrell illustrates a patient with both diabetic ketoacidosis and pancreatitis who presents with hypertriglyceridemia. The hypertriglyceridemia resolved with the application of an insulin drip to treat both the acidemia and lipids. The second case, “A 16-Year-Old Girl with Polyuria, Polydipsia, and a New-Onset Rash Around Her Elbows and Knees,” by Drs. Nivedita Patni and Amy Burton shows how a good physical examination can provide critical clues to a complex diagnosis. The case suggests that an insulin drip may be prescribed safely to treat critically elevated serum triglycerides not responsive to aggressive subcutaneous insulin therapy. In both cases, a specialized lifestyle modification effort was recommended.

Thus, managing diabetes, which can present in a variety of ways in pediatric patients, can be difficult. Clinicians must employ both medical and behavioral management and recommendations for lifestyle modification. Furthermore, the implementation of lifestyle modification, although vague in the American Diabetes Association guidelines, must be tailored to the abilities of each patient and family, which can be a challenge for all involved. The process of motivating families to follow lifestyle recommendations is in its infancy. For the pediatric specialist, types 1 and 2 diabetes and CF-related diabetes have exacted more demand within the clinical and hospital setting. It is with this in mind that this issue has been produced. The contributors and I hope the articles presented have identified and shed some light on these particular areas of interest.

REFERENCE


Disclosure: The author has no relevant financial relationships to disclose.

doi: 10.3928/19382359-20160811-01
About the Guest Editor

**Jon David Oden, MD**, received fellowship training in Pediatric Endocrinology at Duke University, where he investigated the role prolactin plays in regulating beta-cell mass and glucose tolerance. After his fellowship, he joined the faculty at University of Texas (UT) Southwestern Medical Center (Dallas, TX). During his 11 years as faculty with UT, he founded and was the Medical Director of a medical management program for pediatric obesity, which expanded into a multidisciplinary clinic called the Center for Obesity and its Consequences in Health (COACH). The COACH clinic eventually cared for 1,300 new patients annually and included a range of therapeutic options including Lap-Band surgery. He was also Medical Director for Camp Sweeney (Gainesville, TX), the largest residential diabetes summer camp for children and adolescents in the country (>600 campers). In 2015, Dr. Oden accepted the position as Chief of Endocrinology, Diabetes, and Obesity at the University of Arkansas for Medical Sciences/Arkansas Children’s Hospital.

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