Medicating Obese Children

Problem

Obesity is on the rise and reaching epidemic levels among a variety of demographic groups including children. There are a number of reasons for this, including inactivity and excess caloric intake. Both are concerns since obesity is a risk factor for hypertension, diabetes and coronary artery disease, all of which are increasing major health concerns.

Overweight children have ramifications for drug dosing since all pediatric drugs are dosed based upon weight. Obesity also affects the pharmacodynamics and kinetics of many medications.

Consequence

Basing the medication dosage on the weight of an obese child has the risk of overdosing. Since children are also more sensitive to the effects of the medication, the consequences of drug overdosing could be serious.

Solution

Here are some suggested steps to take to prevent / avoid this problem.

- Prescribing of medications to children is based upon weight and is one of the key clinical components that differentiates pediatric clinical care from adult clinical care.

- In an obese child, it is not unusual for the total daily dosage to exceed the adult dosage when based on a per kilogram weight; this is problematic.

- Calculations for children should be based upon the ideal body weight and not the actual body weight.

- If the computed total daily dose for the pediatric patient exceeds an adult dose, the adult dosage should be administered instead.

- While the metabolism of medications is different between children and adults, the adult dose approach will prevent some of the unwanted toxicities that accompany large daily dosages.
• When clinical situations require appropriate serum levels for certain medications, these levels should be checked to ensure that the therapeutic targets are within an acceptable range.

References

Avoiding Common Nursing Errors, Lisa Marcucci, MD, Editor, Lippincott Williams and Wilkins, 2010.

electronic Medicines Compendium (eMC): http://www.medicines.org.uk

Note: A narrated e-Learning module of this Nugget is available at LearningNurse.com.