Weight-Based Dosing Recommendations for Intravenous Antimicrobials in Obese Adult Patients

As obesity continues to increase in prevalence in the U.S, the optimal dosing of antimicrobials in obese patients continues to be a challenging and growing concern. The FDA has not recognized obese patients as a special population and thus pharmacokinetic studies to determine appropriate dosing is not required in this population. A literature review was conducted to help provide guidance when calculating dosing for weight-based dosing of intravenous antimicrobials in obese patients.

Note: Given the paucity of data, the below recommendations cannot be considered absolute, and cases should be evaluated individually in consultation with Infectious Disease/Antimicrobial Stewardship, incorporating the severity of infection and risk of toxicity.

**Recommendation:**

Adjusted Body Weight should be utilized when calculating dosing of the following antimicrobials in obese (BMI ≥30) patients. In non-obese patients, Total Body Weight should be utilized to calculate dosing.

1. Voriconazole
2. Daptomycin
3. IV Ganciclovir
4. IV Acyclovir
5. Liposomal Amphotericin B
6. IV Trimethoprim-sulfamethoxazole
7. Foscarnet
8. Colistin (maximum 300 mg total daily dose)
9. Polymyxin B (maximum 200 mg total daily dose)
10. Ribavirin
11. Cidofovir
12. Flucytosine

BMI is automatically calculated in MiChart (Flowsheets tab-> Height/Weight). BMI can also be calculated using the following equation:

\[ BMI = \frac{wt \text{ (in kg)}}{ht \text{ (in m)}^2} \]

**Ideal body weight for men (kg) = 2.3 * (ht in inches – 60) + 50**

**Ideal body weight for women (kg) = 2.3 * (ht in inches – 60) + 45.5**

**Adjusted body weight (kg) = (actual body weight – ideal body weight) * 0.4 + ideal body weight**

**References:**