DIFFERENCES IN MEROPENEM DOSE ADJUSTMENT WITH CALCULATION OF GLOMERULAR FILTRATION RATE THROUGH DIFFERENT FORMULAS.

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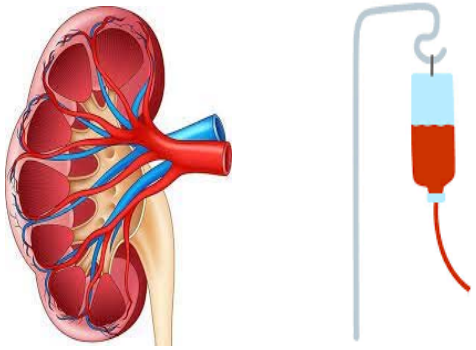
BACKGROUND AND IMPORTANCE

Meropenem is a carbapenemic antibiotic that is mainly eliminated by renal route. Therefore, an **alteration of the glomerular filtration rate (GFR) may affect the elimination of the drug. GFR can be calculated using several validated formulas** using different parameters.



AIM AND OBJECTIVES

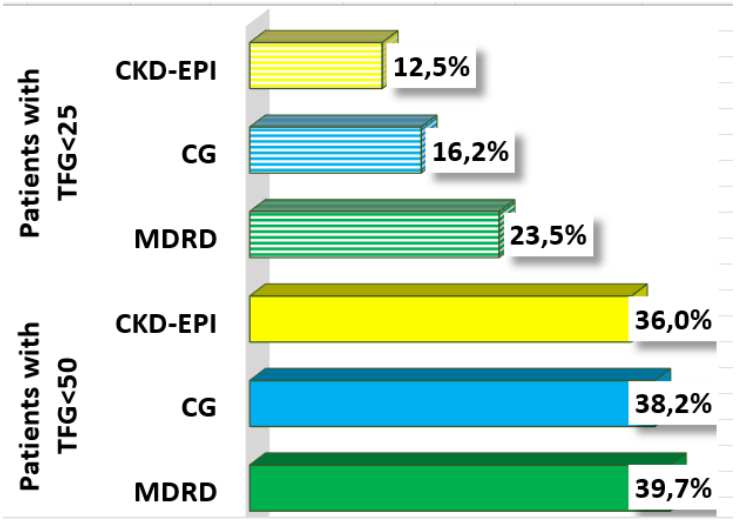
The aim of the study was to analyze the discrepancies between the results of the different GFR equations and the dosage adjustment.

MATERIAL AND METHOD

- A descriptive, retrospective and cross-sectional study that included patients treated with meropenem during three months was performed. The standard dose was 1g every 8 hours.
- Dose adjustments were made according to data sheet (TFG <50mL/min and <25mL/min).
- Age, sex, weight, creatinine (mg/dl), urea (mg/dl), albumin (g/dl)) and meropenem doses were recorded.
- With these data, the GFR was calculated: Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) (ml/min/1.73m2); Modification of Diet in Renal Disease Study Equation (MDRD) (ml/min/1.73m2); and Cockcroft-Gault (CG) (ml/min).

RESULTS

Number of patients analyzed	Patients with TFG<50			Patients with TFG<25		
	MDRD	CG	CKD-EPI	MDRD	CG	CKD-EPI
136	54	52	49	32	22	17



CONCLUSION AND RELEVANCE

There are significant discrepancies in the calculation of GFR with different equations, which affects the dose adjustment of meropenem. **Take into account the values of several equations, would improve both the efficacy and safety of meropenem treatment.**

REFERENCES AND ACKNOWLEDGEMENTS

https://www.uptodate.com/contents/assessment-of-kidney-function?search=CKD-EPI&source=machineLearning&graphicRef=78254#graphicRef78254