C REACTIVE PROTEIN IN PEDIATRIC AGED OBESE PATIENTS
TWO METHOD COMPARISON

INTRODUCTION AND OBJECTIVE

Obesity as a pro-inflammatory state is associated to increased levels of C reactive Protein (CRP). CRP is considered as a cardiovascular (CV) risk independent marker and is being researched as a predictive atherosclerosis biomarker in obese children. The American Heart Association (AHA) recommends a 3 class approach when aiming at CV risk stratification (Low <1,0 mg/L; Moderate 1,0-3,0 mg/L; High >3,0 mg/L). These classes were extrapolated to the pediatric aged patients Compare the performance of two different CPR assays, using blood samples from an obese pediatric population.

METHODS

79 patients were enrolled (convenience sample) (ages 12-17). Serum CPR levels were simultaneously assayed using two distinct analytical methods: Classic wide rage CPR assay (wrCRP Siemens Latex enhanced immunoturbidimetry; ADVIA® 2400; CMD=0,03mg/L Normalization: CRM 470 IFCC), and high sensitivity PCR (CardioPhase® hsCRP Siemens BNproSpec® Siemens CMD=0,175mg/L). SPSS® 20V software was used for statistical analysis.

RESULTS

The Correlation coefficient (R=0,9971)(p<0,001)(Pearson’s test) showed a very strong positive correlation between the two assays. (γ=1,26x-0,34).

The Bland-Altman dispersion plot, pointed that the inter assay (absolute (AD) and percentual (PD)) differences were in 95% confidence interval (except one outlier (>10mg/L) (AD) and the 6 lowest pairs (PD)).

PCR values of both assays were stratified according to AHA CV risk classes, (72 pairs (91,14%) were grouped in the same class, including the aforementioned 6 lowest pairs). The Fleis’ test (κ=0,858)(p<0,001) showed a very strong AHA class agreement of both assays.

CONCLUSION

A strong correlation and agreement has been shown between the two assays.