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LETTER TO THE EDITOR

Anemia in children with obesity: is there a higher risk compared to eutrophic children?

Anemia en niños con obesidad: ¿existe un mayor riesgo en comparación con los niños eutróficos?

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Dear Editor,

Childhood obesity is a global public health problem, recognized as a chronic inflammatory multisystemic disease associated with other cardiometabolic conditions[1]. We conducted an observational study analyzing clinical records of children aged 2-18 years who were admitted to the pediatric service at Hospital General "Dr. Eduardo Vázquez N" during 2023. On admission, nutritional status was assessed using body mass index percentiles (Eutrophic: 5th-84.9th percentile; Overweight: > 85th percentile; and Obesity: > 95th percentile). Anemia was determined according to the World Health Organization (WHO) recommendations (< 2 standard deviations from age-and sex-specific hemoglobin levels). Student's t-tests were used to compare hemogram values across nutritional status categories, and Chi-square tests were performed to assess anemia risk.

Data from 295 pediatric patients were included, with a median age of 108 months. Females represented 49.2% (n = 145) of the sample. Among participants, 70.5% (n = 208) were eutrophic and 29.5% (n = 87) were overweight or obese. Overall, 16.6% of patients presented with anemia according to the WHO criteria. Anemia was present in 12.5% (n = 26) of eutrophic children and 26.4% (n = 23) of overweight and obese children. Children diagnosed with overweight and obesity showed an Odds Ratio of 2.51 (95% CI: 1.341-4.720; p = 0.004) for anemia. No significant differences were found in hemogram parameters between overweight/obese and eutrophic children, likely due to the comparison of absolute rather than percentile-adjusted values and the wide age range analyzed. These findings align with previous publications reporting high anemia prevalence in children with obesity[2,3].

In conclusion, overweight and obese children demonstrate a higher risk of anemia at hospital admission compared to eutrophic children, potentially due to the low-grade inflammation present in obesity. This condition may lead to additional comorbidities or increase the

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need for medical interventions, such as blood transfusions[4]. Further studies measuring inflammatory markers and iron deficiency parameters are needed to validate our findings.

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