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Urinary Melatonin-sulfate in Pediatric Patients with Inflammatory Bowel Disease: A Pilot Study

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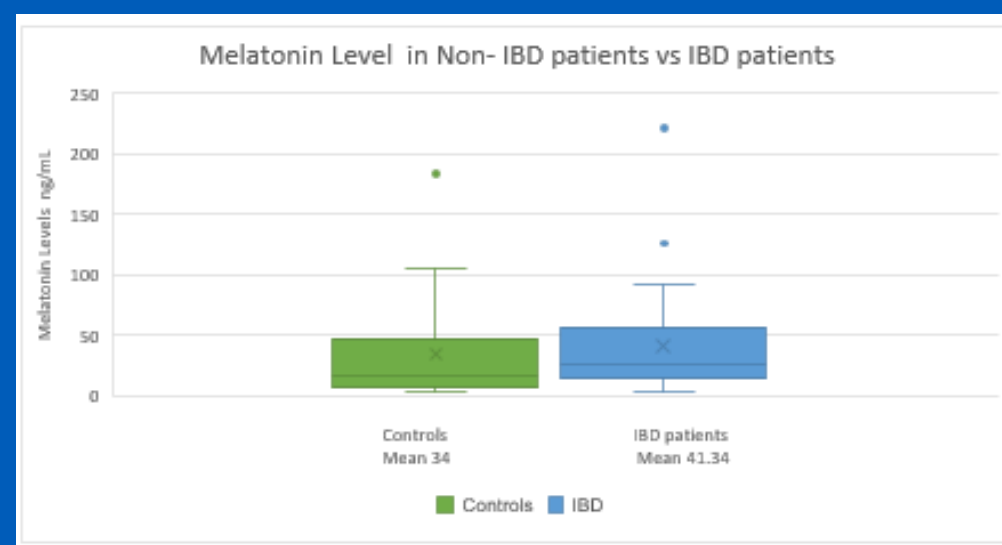
INTRODUCTION

- Inflammatory bowel disease (IBD) is widely recognized as a multifactorial condition.
- Gastrointestinal melatonin has antioxidant and inflammatory modulator properties
- This study aims to analyze melatonin urine concentration in patients with IBD in remission compared to non-IBD control group.

METHOD

- Retrospective, case-control study
- Case group: 29 spot urine samples from IBD patients in remission
Female 11
Male 18
Age range: 8-20 yrs
- Control group: 29 spot urine samples from non-IBD patients.
Female: 14
Male: 15
Age range: 8-20yrs
- Used Melatonin-sulfate ELISA
- Mann-Whitney U test
- Effect size calculated using Cohen'd

Melatonin sulfate concentrations are higher in patients with Inflammatory Bowel Disease in remission compared to a non-Inflammatory Bowel Disease control group.



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RESULTS

- Urinary melatonin-sulfate concentration was elevated in IBD vs control groups.
- IBD group vs non-IBD group (68.4 ± 142.81 vs 35.41 ± 42.96 ; $p < 0.033$)
- Cohen's $d = 0.312$ (medium effect size)

DISCUSSION

- 1st study to assess spot urine melatonin-sulfate concentrations
- 2nd study measuring melatonin in IBD in a pediatric population
- Suggests that IBD is associated with altered production and/or metabolism of melatonin, even in remission.
- A small sample size limits the study.
- As a pilot study it lays the groundwork for further workup in the pathogenesis of IBD.

References

