

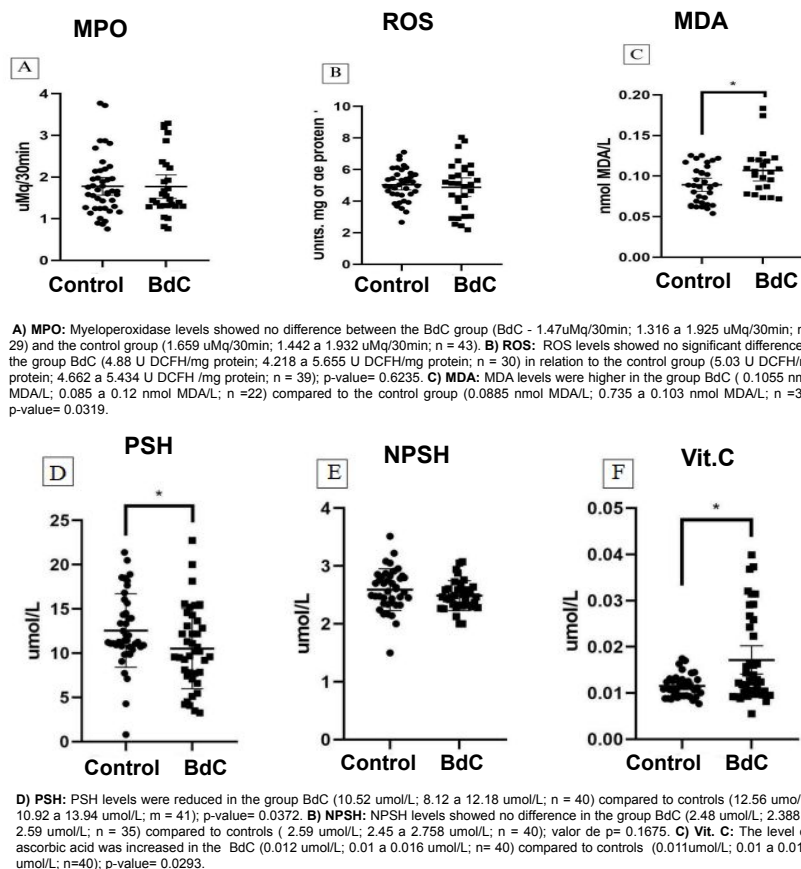
INTRODUCTION

Bladder cancer (BdC) is the most common cancer of the urinary tract, being the fourth most common cancer (Jelic MD. *et al.*, 2021). The production of reactive oxygen species generated by by-products of cellular metabolism can also be caused by external factors, such as smoking (Wigner P. *et al.*, 2021), one of the main risk factors for BdC (Mushtaq J. *et al.*, 2019). The redox profile in cancer is usually the increase in oxidant biomarkers and the decrease in antioxidants (Caliri AW. *et al.*, 2021; Gunes M. *et al.*, 2020). The objective of this study was to evaluate the redox profile in individuals with BdC.

METHODOLOGY

Blood samples were collected prior to the start of surgical or pharmacological treatment from 45 patients diagnosed with BdC and 46 age-and sex-matched control subjects without previous or current cancer. Using blood plasma, the oxidant profile was determined (myeloperoxidase-MPO, reactive oxygen species-ROS and lipid peroxidation-MDA). From serum, the antioxidant profile (protein thiols-PSH, non-protein thiols-NPSH and ascorbic acid-Vit.C) was determined. The Mann Whitney statistical test was used to compare data between groups. Values of $p < 0.05$ were considered statistically significant. Data were presented as mean and standard deviation with analyses performed in triplicate.

RESULTS



CONCLUSION

Most patients demonstrated increased lipid peroxidation, an important biomarker of cancer by forming DNA lesions. Measurement of lipid peroxidation levels in blood plasma has been widely used to estimate the overall burden of damage related to oxidative stress. The absence of difference in the levels of reactive oxygen species and myeloperoxidase can be explained by the increase in ascorbic acid as a possible protective effect by modulating the concentration of unpaired electrons, reducing their oxidative effect.

References:

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