# ABSTRACT
Ph.D. Thesis

## Assessment of psychological correlations in patients with age-related urological conditions

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The objective of this doctoral thesis was to identify correlations between testosterone deficiency, lower urinary tract symptom occurrence, erectile dysfunction, and neoplasia with the presence of symptoms of anxiety, depression, and/or stress.

To achieve the proposed research objectives, this doctoral thesis provides a summary of the scientific activity carried out over a 4-year period (2019-2023) and includes the results of an individual study on the topic, several systematic reviews, and two prospective clinical studies.

In a cross-sectional study of 113 subjects, we identified correlating relationships between depression, anxiety, and stress symptoms with lower urinary tract symptoms. We also noticed that a quarter of men who presented for urological consultation have concomitant symptoms of depression, anxiety, and/or stress. Thus, screening for these symptoms could help with providing better counseling, individualized management, and improving patient health-care-related satisfaction.

In a meta-analysis that included 15 randomized clinical trials, we observed that testosterone replacement therapy reduces depressive symptoms in patients with pre-existing mild depression, and in patients without pre-existing depression, it leads to a reduction in depressive symptoms onset. However, the optimal duration of therapy and the synergic effect with standard antidepressants taking into account its long-term benefits, risks, and adverse events, needs to be further studied.

Using two psychometric instruments, we identified in a prospective monocentric study that patients with testosterone deficiency typically present with symptoms of depression at the time of diagnosis. Consequently, these patients require a multidisciplinary approach, including a psychological evaluation, before making a decision regarding therapeutic intervention. The results from the two-instrument

prospective monocentric study are consistent with the findings obtained after a systematic analysis of the literature.

In a systematic review that included 1659 patients from 13 studies, we observed that the prevalence of depression and anxiety was high (up to 70%) before bladder tumor diagnosis. Even after treatment, during the follow-up, patients with bladder tumors tended to report depression and anxiety. Clinicians often reported concern regarding the quality of life, psychological status, and well-being of patients with bladder tumors. For the future, it might be salient to identify patients affected by depression and/or anxiety through concrete screening strategies implemented in daily clinical practice, so that patients who need specialized interventions can be identified. Furthermore, there is a need to discern what type of psychological interventions might be most effective in helping these patients to alleviate their cancer-related distress.

In another systematic review, we analyzed the current literature regarding the incidence of psychological distress, depression, and/or anxiety and its impact on oncological outcomes in patients with non-metastatic and metastatic renal cancer

Patients with kidney cancer reported high levels of psychological distress, similar to patients with other urological malignancies such as bladder cancer. For patients with localized disease, the review suggested these symptoms had no impact on oncologic outcomes. In contrast, in metastatic disease, psychological distress has a marked negative impact on survival. The impact of psychological distress on patients' adherence to therapy and long-term well-being requires further research.

In conclusion, there is a need for healthcare providers, patients, and their families to have a heightened awareness of the impact of psychological suffering. Targeted screening is also needed to identify and promptly help patients affected by depression and anxiety.

The use of screening tools by practitioners should become routine. Through such, patients will be more accustomed to sharing feelings and symptoms of depression, anxiety, and/or stress related to the organic disease they suffer from.

In light of the results of this thesis, the inclusion of a clinical psychologist in the treating team for age-related urological conditions would appear to be highly recommended.