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## Letter to the Editor

### COVID-19: Importance of the Awareness of the Clinical Syndrome by Urologists

As of March 11, 2020, more than 10 500 cases of coronavirus disease 2019 (COVID-19) and 827 deaths had been reported in Italy. On the same day, the disease was deemed to be a pandemic by the World Health Organization, with a warning that health care planning efforts will be needed to face the upcoming spread of COVID-19 worldwide.

From the experience in Wuhan, China, for 138 hospitalized patients with COVID-19, the most common symptoms at onset of illness are fever (98.6%), fatigue (69.6%), dry cough (59.4%), myalgia (34.8%), and dyspnea (31.2%) [1].

Knowledge of the symptoms and their prevalence is of paramount importance for all physicians, including those from diverse backgrounds such as surgeons, who are called to face COVID-19 disease in their daily practice as well.

As far as the urology field is concerned, no certain direct impact of COVID-19 on urogenital tissues has been reported to date [1–4]. However, urologists can be involved in the initial evaluation of patients presenting with fever without other symptoms of COVID-19, often interpreted as urosepsis. The attribution of fever to urinary infection could be supported by the possible presence of urological devices previously positioned to relieve urinary obstruction.

Ureteral stenting and the positioning of a nephrostomy tube are common urological procedures overcoming ureteral obstruction from stones or extrinsic compression [5]. Encrustation and super-infections are frequent drawbacks of indwelling devices that can lead to the occurrence of sepsis. The severity of urosepsis depends mostly on the host response: elderly patients, diabetics, immunosuppressed individuals, and patients receiving cancer chemotherapy are generally prone to severe presentation [5]. Fever or hypothermia, leukocytosis or leukopenia, tachycardia, and tachypnea are signs of systemic inflammation of possible urological origin [5].

The background of urosepsis development and its systemic symptoms may initially overlap those typical of COVID-19; immediate differentiation could prompt treat-

ment and avoid the shortcomings of a missed or delayed COVID-19 diagnosis.

Laboratory findings may be the driver of the diagnostic workup in this setting. Lymphopenia (70%), prolonged prothrombin time (58%), and elevated lactate dehydrogenase (40%) are typical of COVID-19 [1–3]; by contrast, elevated procalcitonin may characterize the presence of urosepsis [5].

Procalcitonin, the inactive propeptide of calcitonin, is undetectable in healthy humans [5]. The European Association of Urology guidelines state that levels can rise during severe generalized infections of bacterial, parasitic, or fungal origin, whereas procalcitonin levels are only moderately or not increased in the case of viral infections [5].

In conclusion, the possible overlap of COVID-19 clinical syndrome with different conditions such as urosepsis should be recognized and deserves proper investigation from the very start of case presentation. The rapid diagnosis and isolation of COVID-19 cases—recognized to be public health interventions that slow the spread [6]—rely on prompt preparation and the knowledge of all physicians to confront this unprecedented pandemic.

**Conflicts of interest:** The authors have nothing to disclose.

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