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In Reply

We agree with Boutayeb et al. that COVID-19 must be considered in patients presenting with febrile neutropenia; they may be a particularly high-risk population given their underlying immunocompromise and frequent interaction with the health care system. Viral respiratory infections, including COVID-19, should routinely be considered in differential diagnosis for febrile neutropenia as they are commonly identified even outside of the present pandemic [1, 2].

The best evidence for sequential diagnostic algorithms for COVID-19 continues to evolve as emerging data are published. We believe that in patients who are admitted with febrile neutropenia, polymerase chain reaction (PCR)–based diagnostics for COVID-19 should routinely be performed; in many of our centers as the turnaround time for such testing improves, we frequently obtain same-day results. These patients would then be placed under appropriate precautions for a patient under investigation for COVID-19 to prevent nosocomial spread. Furthermore, given the potential limitations of the sensitivity of the PCR test to exclude the diagnosis of COVID-19, we would not necessarily withdraw precautions based on a single negative assay and would consider repeat testing, particularly in the setting of ongoing fever or respiratory symptoms [3].

There is not universal agreement on the use of routine chest radiography in patients with febrile neutropenia in the absence of respiratory symptoms [4, 5]; however, the European Society for Medical Oncology guidelines recommend chest radiography. The Fleischner Society guidelines on the use of chest imaging during the COVID-19 pandemic suggest that chest imaging should be used routinely at presentation in all patients with moderate-severe features of COVID-19 to establish a radiographic baseline, to stratify risk of progression, and to supplement the diagnosis in patients with a negative PCR assay [6]. For patients with febrile neutropenia, particularly in the setting of a negative PCR with ongoing clinical suspicion for COVID-19, chest computed tomography (CT) may further supplement the diagnosis given its reported increased sensitivity [3]. Additionally, low-dose chest CT may be employed in resource-constrained settings where radiologic assessment is more readily available than PCR testing and CT results may be quickly obtained. However, in the setting of PCR-confirmed COVD-19, a chest CT may not routinely be required and should be considered as clinically required on a case-by-case basis.

Additional considerations for the management of febrile neutropenia during the COVID-19 pandemic include primary prophylaxis with myeloid growth factors and outpatient management. We have not specifically recommended increased use of primary or secondary prophylaxis of myeloid growth factor, given anticipated resource constraints and lack of existing evidence related to COVID-19. However, we recognize that the American Society of Clinical Oncology (ASCO) guidelines support consideration of expanded use of myeloid growth factors for patients with a lower expected risk of febrile neutropenia [7]. Furthermore, in keeping with current ASCO recommendations, in low-risk clinically stable outpatients it may be preferable to maintain home isolation, conduct outpatient investigation via telemedicine consultation, and prescribe empiric antibiotic therapy to minimize additional exposures [7]. Prospective investigation of these and other approaches to guide the evidence-based management of patients with cancer during the COVID-19 pandemic is highly anticipated.

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References

1. Boutayeb S, El Ghissassi I, Mrabti H et al. How to manage febrile neutropenia during the COVID pandemic? ***The Oncologist*** 2020;25:e1251.

2. Hakim H, Flynn PM, Knapp KM et al. Etiology and clinical course of febrile neutropenia in children with cancer. J Pediatr Hematol Oncol 2009;31:623–629.

3. Fang Y, Zhang H, Xie J et al. Sensitivity of chest CT for COVID-19: Comparison to RT-PCR. Radiology 2020 [Epub ahead of print].

4. Freifeld AG, Bow EJ, Sepkowitz KA et al. Infectious Diseases Society of America. Clinical practice guideline for the use of antimicrobial agents in neutropenic patients with cancer: 2010 update by the Infectious Diseases Society of America. Clin Infect Dis 2011;52:e56–e93.

5. Klastersky J, de Naurois J, Rolston K et al. ESMO Guidelines Committee. Management of febrile neutropaenia: ESMO clinical practice guidelines. Ann Oncol 2016;27(suppl 5):v111–v118.

6. Rubin GD, Ryerson CJ, Haramati LB et al. The role of chest imaging in patient management during the COVID-19 pandemic: A multinational consensus statement from the Fleischner Society. Radiology 2020 [Epub ahead of print].

7. American Society of Clinical Oncology. COVID-19 patient care information. Available at https://www.asco.org/asco-coronavirus-information/care-individuals-cancer-during-covid-19. Accessed April 12, 2020.

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