Radiotherapy for Breast Cancer and Pulmonary Toxicity Outside the Radiation Field

To the Editor:

We read with interest the report by Epler and Kelly[1] on post-breast cancer radiotherapy bronchiolitis obliterans organizing pneumonia. The authors reported that the post-radiotherapy lung injury usually developed during the 12 months after completion of radiotherapy and was characterized by ground-glass opacities even in the nonirradiated lung, and they also indicated that age and cigarette smoking were 2 of the 3 risk factors.[1]

We would like to share our experience. At our institution, we practice intensity-modulated radiation therapy using TomoTherapy. In this treatment method, we have treated 2 patients who have had both ground-glass opacities and consolidations appear outside the radiation field. These 2 patients were both women, aged 64 y and 50 y. One had a history of smoking, while the other did not. After partial resection of stage I breast cancer, they had chest wall 50 Gy irradiation. Opacities appeared 2 months after the end of irradiation in one patient, and at 5 months in the other patient. They have been followed to 24 months and 44 months, respectively. When computed tomography examinations were repeated at intervals of several months to half a year, there was no sign of scarring where the opacities had been identified. For this reason, we described these opacities as "moving around" or "migratory." Up to now, these patients were not prescribed systemic corticosteroids because they had no deterioration in respiratory status or volume loss in the lungs. Considering previous reports[2-4] and our experience together, we need to pay attention to the following 4 points: (1) the presence of patients with migratory opacities to both lungs in the irradiated and nonirradiated field after irradiation for breast cancer; (2) the existence of patients whose migratory opacities did not change to "fibrosis with volume loss"; (3) the existence of patients with long-term migratory opacities; and (4) the presence of patients whose respiratory status did not worsen without corticosteroids.

Hiroaki Satoh
Division of Respiratory Medicine
Mito Medical Center
University of Tsukuba-Mito Kyodo
General Hospital
Ibaraki, Japan

Correspondence: Hiroaki Satoh MD PhD, Division of Respiratory Medicine, Mito Medical Center, University of Tsukuba, Miyamachi 3–2-7, Mito, Ibaraki, 310–0015, Japan. E-mail: hirosato@md.tsukuba.ac.jp

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Checklists Continue to Prove Their Worth: A Donning and Doffing Checklist Prevents SARS-CoV-2 Transmission

To the Editor:

We were not surprised to see that an intubation checklist, as described by Papali and colleagues,[1] can reduce time for intubation and improve communication between staff, particularly when intubating patients with acute respiratory failure from COVID-19. We applaud the efforts of this group in coming together quickly as an interprofessional team to anticipate the challenges posed by COVID-19 intubations, to agree on a solution, and to communicate that strategy to frontline workers.

We wish to share a similar experience at our institution where a multidisciplinary team of anesthesiologists, intensivists, and infectious disease experts together collaborated to develop an enhanced personal protective equipment (PPE) protocol for aerosol-generating procedures and an accompanying donning and doffing checklist (see the supplementary materials at http://www.rcjournal.com) prior to the first surge of COVID-19 in the spring of 2020. Enhanced PPE was used for endotracheal intubation and percutaneous tracheostomy in patients with COVID-19.

A meta-analysis during the SARS-CoV-1 outbreak indicated that health care workers were significantly more likely to contract the disease while performing aerosol-generating procedures.[2] It is presumed that, similar to SARS-CoV-1, health care workers are at higher risk of contracting SARS-CoV-2 when performing aerosol-generating procedures. Yet the Centers for Disease Control and Prevention (CDC) does not recommend the use of any additional PPE during aerosol-generating procedures. As a result, some professional societies recommend adherence to institutional PPE protocols rather than CDC recommendations.[3]

The items that we chose for our institutional enhanced PPE protocol for laryngoscopists during aerosol-generating procedures included inner gloves, an impervious gown with thumbholes, outer gloves with extended wrist cuffs, an N-95 respirator, an impervious hood, and a face shield (Fig. 1). Other members of the intubation team did not include the impervious hood in their PPE because they were able to physically distance themselves from the patient to a greater degree than the laryngoscopist. Because doffing in particular poses great risk of exposure if done improperly,[4,5] we reasoned that the more complex the process became, the higher the likelihood of disease transmission to the health care worker. For that reason, we avoided unnecessarily excessive PPE that, although may have helped protect the provider during the procedure, may have been difficult to properly doff, such as shoe covers or full-body coverall suits.

Education and practice prior to clinical duties are paramount to successful implementation. Members of our institution's intubation and tracheostomy teams were invited to attend a donning and doffing PPE session in the simulation center where they gained familiarity with the materials and the checklist. They were also given access to a video on PPE for aerosolizing procedures that was produced by the multimedia lab of the Department of Anesthesiology. In the clinical environment, an observer with the donning/doffing checklist aided frontline clinicians at every procedure. We felt that adherence to the enhanced PPE protocol and

Fig. 1. Items included in the enhanced personal protective equipment protocol for aerosol-generating procedures.

Table 1. Summary of Self-Reported COVID-19 RT-PCR Assay, Rapid Antigen Test, and Antibody Test Results.

Survey Question	Responses
Did you receive a COVID-19 RT-PCR assay or rapid antigen test?	57
Yes	21 (36.8)
No	36 (63.2)
How many RT-PCR assays or rapid antigen tests were positive?	21
0 (Zero)	21 (100)
Did you receive a COVID-19 antibody test?	57
Yes	25 (43.8)
No	32 (56.2)
What was the result of the COVID-19 antibody test?	25
Positive	0 (0)
Negative	25 (100)

Data are presented as *n* (%).

procedural checklist would improve with practice, observation, and a cognitive aid.[6,7]

We assessed the effectiveness of our institution's enhanced PPE protocol and checklist for aerosol-generating procedures by examining self-reported data from members of the intubation and tracheostomy teams. We determined the number of team members who had a positive SARS-CoV-2 test during the first COVID-19 surge, including reverse-transcription polymerase chain reaction (RT-PCR) assay, rapid antigen test, or serologic antibody test. We are proud to report zero cases of SARS-CoV-2 transmission to anesthesiologists, surgeons, resource nurses, and respiratory therapists who performed 231 intubations and 22 tracheostomies during the first surge of the pandemic (Table 1).

We are encouraged by all of the positive experiences reported from across the globe, especially when individuals join together in an interprofessional fashion to battle COVID-19. The checklist is a simple yet powerful tool that continues to prove its worth, especially in risky and stressful situations.

Robert J Canelli
Mark J Stasaitis
Nikhil Mikkilineni
Shivali Mukerji
Lina Nurhussien
Ala Nozari
Department of Anesthesiology
Boston Medical Center
Boston, Massachusetts

Katherine Christopher-Dwyer
Department of Nursing
Boston Medical Center
Boston, Massachusetts

Elizabeth Ryan
Department of Respiratory Therapy
Boston Medical Center
Boston, Massachusetts

Correspondence: Robert J Canelli MD, 750 Albany St, Suite 2R, Boston, MA 02118. E-mail: robert.canelli@bmc.org

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