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Greetings,

Reply to the CADTH Health Technology Review on Ventilation and Perfusion Imaging for the Diagnosis of Pulmonary Embolisms during the COVID-19 pandemic (Published October 2, 2020)

We read with great interest the report regarding de Review of Safety and Guidelines for the diagnosis of pulmonary embolism during the current COVID-19 pandemic. Although we applaud the exercise, the conclusions are flawed because the analysis ignores the Canadian situation for ventilation imaging in nuclear medicine.

In Canada, the ventilation part of a ventilation/perfusion study is performed almost exclusively without using radio-aerosols labelled with Technecium-99m, or radioactive gases like Xenon-133. The agent of choice is a pseudo gas commercially known as Technegas. This radiopharmaceutical does not require the formation of radio-aerosols. Technegas is NOT an aerosol generating procedure (AGP) and is not known to induce coughing. To administer this ventilation agent, the patient needs to remove his mask for a few seconds and take 2-4 breaths through a closed ventilation system. The only potential risk for contamination and generation of aerosol comes from the mask removal for a few seconds. If the patient does not cough during this moment, there should be not additional contamination risk outside of the fact that the patient is present in the imaging department.

Technegas is not approved in the United States. Therefore, the recommendation of the American College of Radiology for not performing the ventilation part of a ventilation/perfusion study is based solely on the use of radio-aerosols for ventilation imaging. It does not apply to Technegas. We are firmly convinced, like Le Roux et al, that omitting the ventilation part of a ventilation/perfusion study is associated with an unacceptable risk of false positive studies, with the potential complications linked to unnecessary anticoagulation therapy.

In conclusion, we agree with the key finding of the report: evidence-based guidelines regarding the use of ventilation and perfusion imaging for the diagnosis of pulmonary embolism during the COVID-19 pandemic are tenuous at best. However, extending the safety concerns regarding the use of aerosols to the situation currently experienced in Canada is inappropriate because aerosols are no longer in use in most Canadian medical imaging departments. Ventilation/Perfusion imaging is invaluable in the diagnosis of pulmonary embolism and withholding its use without solid justification has the potential to cause more harm the benefit to our patients.

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Attachments