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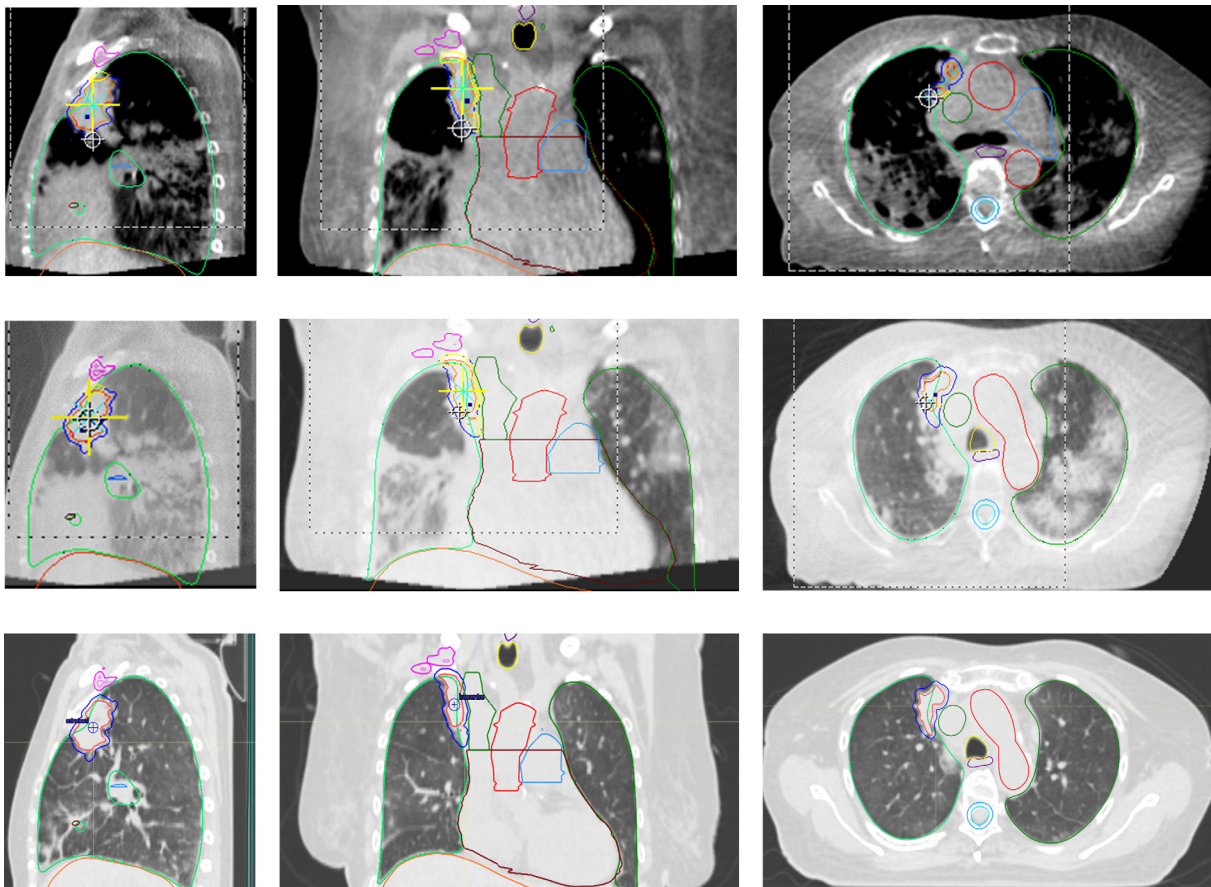
## Letter to the Editor

**Detection of an asymptomatic Covid-19 patient on CBCT-imaging**

**COVID rapid letter**

SARS-CoV-2 virus has rapidly spread world-wide since December 2019. Switzerland reported a particularly high number of cases since the beginning of the European “second-wave”. Patients presenting a cancer and treated by radiotherapy represent a vulnerable population with a higher risk for severe complications [1]. Patients have to be screened for clinical symptoms such as fever, dyspnea or dry cough before getting into the radiation-oncology

department. Identified SARS-COV-2 patients are treated last in order to limit interactions with Covid negative patients. However, in case of infection, up to 75% infected patients are asymptomatic [2]. The risk with asymptomatic patients is unintentional infection to other patients, health professionals and administrative employees. Most common pulmonary radiological abnormalities associated with COVID-19 are ground-glass opacities, air bronchograms, thickening of adjacent pleura and crazy-paving [3,4]. Nowadays, image guided radiotherapy helps to enhance



**Fig. 1.** CBCT imaging at last fraction. Up: CBCT in mediastinal window view, Middle: CBCT in lung window view, Down: Radiotherapy planning CT.

the accuracy of the treatment setup. In case of thoracic or breast cancer, a daily Cone Beam computed tomography (CBCT) is commonly performed prior to radiotherapy treatment delivery [5].

In November 2020, we treated a 70-year woman who presented an isolated lung nodule progression from a lung adenocarcinoma diagnosed in February 2020. A stereotactic treatment of 60 Gy in 8 fractions was planned to target an apical right lung lesion. The patient showed excellent tolerance during the treatment, and the patient was totally asymptomatic of COVID-19 symptoms. The last day of treatment the radiation oncologist was called to check the set-up. On CBCT imaging we observed suspect diffuse condensation with ground-glass opacities (Fig. 1).

A nasopharyngeal PCR Coronavirus SARS-CoV-2 test was performed and was positive. The patient was informed of the diagnosis and was still asymptomatic. Four days later, the patient went to emergency department because of a collapse associated with an oxygen desaturation. An injected CT has been prescribed to rule out a pulmonary embolism diagnosis. The CT revealed a left troncular and segmentar embolism and highlighted a severe pneumopathy due to COVID-19 characterized by ground-glass opacities and air bronchograms. The lung cancer status was in favor of a stable disease. The patient needed oxygen therapy, anti-coagulation treatment and antibiotherapy.

This report highlights the importance for radiation oncologist to stay alert on thoracic positioning imaging such as CBCT or MVCT during the pandemic period, as up to 50% of asymptomatic patients show radiographic abnormalities before the onset of symptoms [6,7]. Changes in lung imaging occurring during the course of radiotherapy, as compared to the planning CT or CBCT, could help to identify asymptomatic patients who require specific care. Thoracic radiotherapy images should be reviewed in lung window to screen asymptomatic patients [8]. Radiation oncology staff must be aware of Covid-19 early radiological signs. In case of abnormalities, a SARS-CoV-2 test should be performed in order to prevent potential involuntary contamination among radiation-oncology staff and other patients.

#### Declarations of interest

I declare on behalf of my co-authors and myself that we do not have any competing interest or funding to declare.

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