(Un)Expected Evolution & Unknown Sequelae

Evolução (In)Esperada & Sequelas Desconhecidas

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A series of pneumonia cases caused by SARS-CoV-2 was described in late 2019 in China.[1] The disease then named COVID-19 has a wide spectrum of clinical appearances, encompassing asymptomatic infection, mild upper respiratory tract illness, severe viral pneumonia with respiratory failure and even acute respiratory distress syndrome.[1]

The diagnosis of COVID-19 is currently confirmed by laboratory testing through identification of viral RNA in reverse transcriptase polymerase chain reaction (RT-PCR). Chest imaging has been considered part of the diagnostic workup of patients with suspected COVID-19 disease.[2] Although computed tomography (CT) imaging findings should be interpreted with caution because normal chest CT imaging findings do not exclude COVID-19, nor even in symptomatic patients.[3]

In this case, 74-year-old Caucasian woman with diabetes, hypertension, obesity and osteoporosis admitted to the emergency department for an 8 days history of chills and myalgia. She denied having shortness of breath, fatigue, chest pain, ageusia, anosmia, nausea, vomiting or diarrhoea. She was alert and oriented, febrile, tachycardic (heart rate 100 beats per minute) and had a peripheral oxygen saturation (SpO_2) of 89% on room air. Cardiopulmonary auscultation had no evident changes. The laboratory tests showed anaemia (haemoglobin 11.5 g/dL), slightly elevated white blood count (10.2x10^9/L) with a normal lymphocyte count (2.02x10^9/L) and elevated C-reactive protein (8.43 mg/dL). Arterial blood gas analysis (ABG) on room air showed hypoxemia (pH 7.46, $PaCO_2$ 37 mmHg, PaO_2 64 mmHg, HCO_3^- 26.3 mmol/L, $SatO_2$ 88%). Supplemental oxygen with a 2 L/minute flow by nasal cannula improved PaO_2 to 86 mmHg. SARS-CoV-2 RT-PCR was positive. A chest radiogram showed bilateral ground-glass opacities in the lower lobes and a subsequent chest CT (Fig. 1) revealed multiple ground glass opacifications and crazy paving pattern with a subpleural distribution predominantly in the lower lobes, suggesting SARS-CoV-2 pneumonia. During the following week, the patient showed progressively higher oxygen requirements (O_2 a 3L/min for SpO_2>95%) and so she was advised to maintain prone position and respiratory physiotherapy.[4] On the 7th day after admission (14th day after symptom onset), a revaluation chest CT was made (Fig. 2). It showed multiple basal and peripheral alveolar condensations with ground glass opacities. A new imaging revaluation on the second week (22nd day from symptom onset), revealed a partial resolution of the condensation lesions, suggesting a favourable evolution however we can observe the development of sequelae fibrotic streaks (Fig. 3).[5] The patient's need for oxygen supplementation gradually decreased until she tolerated room air (ABG with PaO_2 of 94 mmHg).

The different phases of the disease are perceptible in the imaging evolution above. Despite the fact that the clinical presen-

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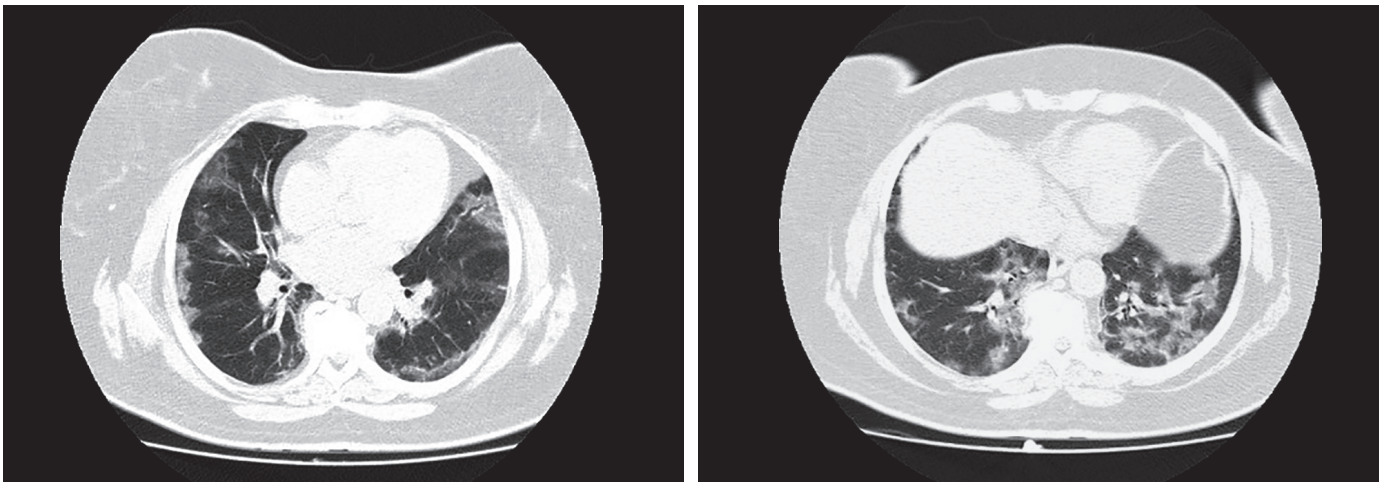

Figure 1. Chest-CT at admission.

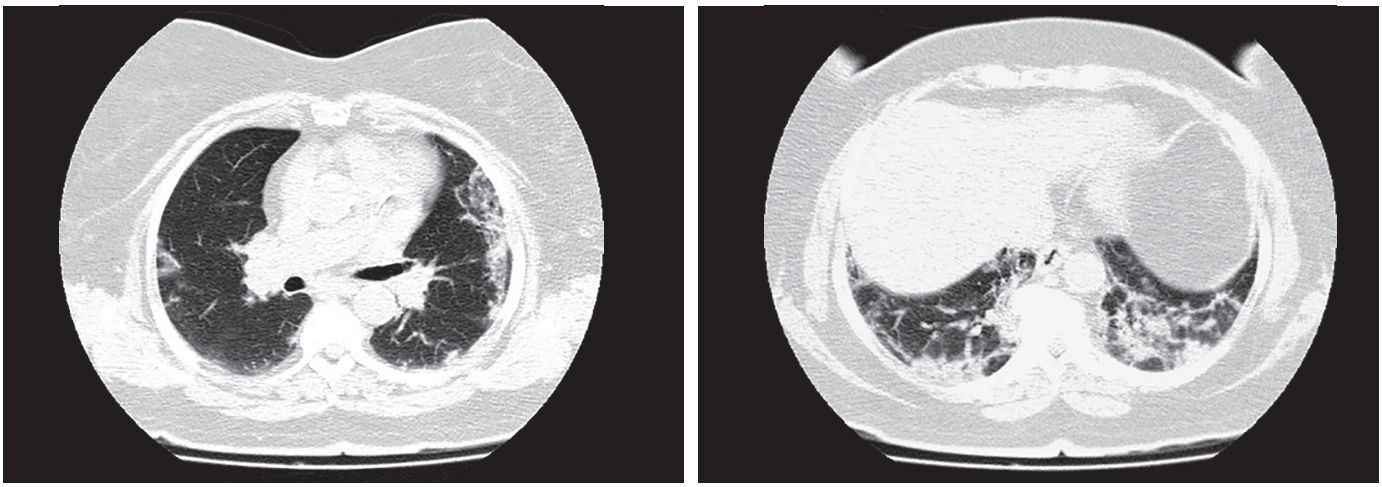

Figure 2. Follow-up chest-CT on day 7.

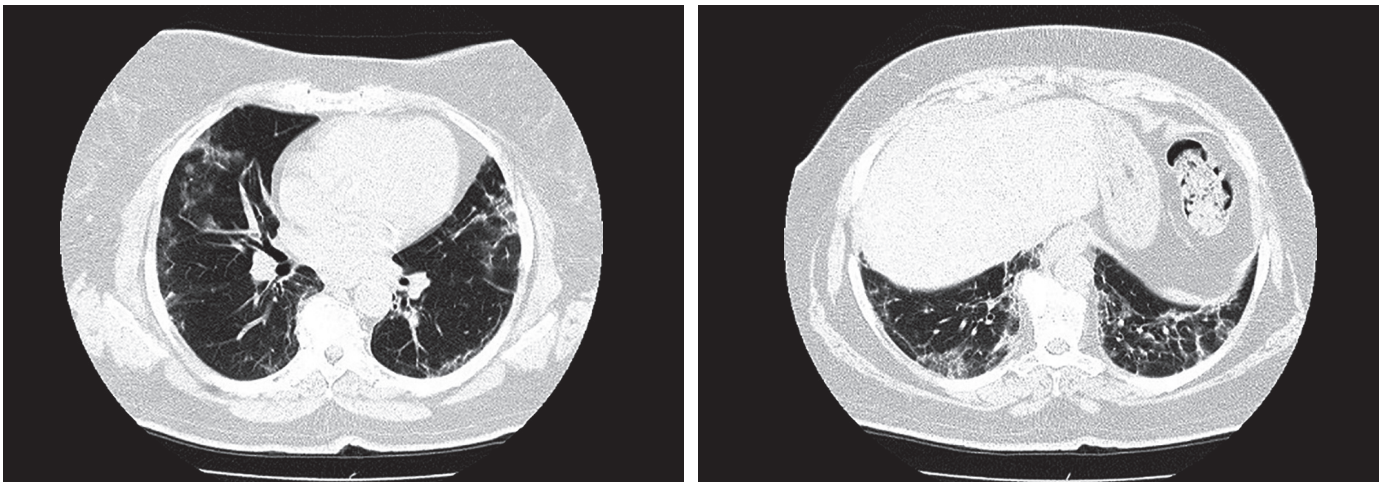

Figure 3. Follow-up chest-CT on day 14.

tation was not very exuberant, radiologically there was a rapid evolution that conditioned the need for high oxygen supply. Early prone positioning and respiratory physiotherapy exercises were crucial measures in this patient's favorable outcome. However, the presentation of this imaging series intends to raise awareness to the potential development of pulmonary sequelae after the resolution of the acute phase of the infection, with consequences yet unknow.

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