

# COVID-19 pneumonia detected by parathyroid scintigraphy

Mehrosadat Alavi<sup>1,2</sup>, Yalda Moafpourian<sup>2</sup>

<sup>1</sup>Ionizing and Non-Ionizing Radiation Protection Research Center (INIRPRC), Shiraz University of Medical Sciences, Shiraz, Iran

<sup>2</sup>Nuclear Medicine Department, Medical School, Shiraz University of Medical Science, Shiraz, Iran

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## Abstract

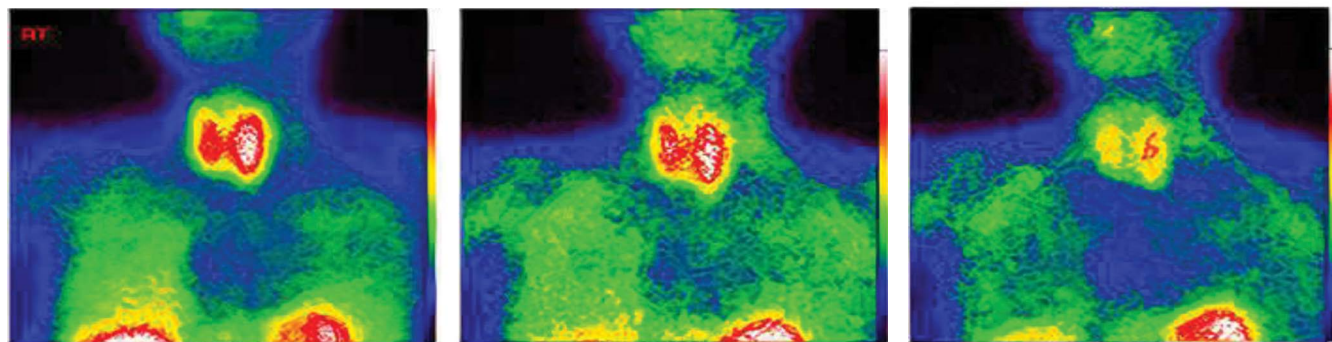
We report a case of incidental diagnosis of COVID-19 pneumonia by parathyroid scintigraphy. A 53-year-old woman who had severe fatigue, and mild dyspnea underwent parathyroid scintigraphy due to increased serum parathyroid hormone (PTH) and serum calcium levels. Parathyroid scan was negative for abnormal parathyroid tissue. Although the patient had three negative results of COVID-19 PCR tests, significant <sup>99m</sup>Tc-hexakis-2-methoxyisobutylisonitrile (<sup>99m</sup>Tc]MIBI) uptake is noticed in both lungs that was suspicious for Covid-19 pneumonia. The patient underwent CT scan of the chest for further evaluation. Diffuse ground-glass opacities were identified in both lungs which were interpreted as typical feature for COVID-19 pneumonia.

**KEY words:** COVID-19; [<sup>99m</sup>Tc]MIBI; primary hyperparathyroidism

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We report a case of incidental diagnosis of COVID-19 pneumonia by parathyroid scintigraphy. A 53-year-old woman who had severe fatigue, and mild dyspnea underwent parathyroid scintigraphy due to increased serum PTH and serum calcium levels. The parathyroid scan was negative for abnormal parathyroid tissue. Although the patient had three negative results of COVID-19 PCR tests, significant

<sup>99m</sup>Tc-hexakis-2-methoxyisobutylisonitrile (<sup>99m</sup>Tc]MIBI) uptake is noticed in both lungs that were suspicious for Covid-19 pneumonia (Fig. 1, 2) [1, 2]. The patient underwent computed tomography (CT) scan of the chest for further evaluation (Fig. 3) [3–5]. Diffuse ground-glass opacities were identified in both lungs which were interpreted as a typical feature of COVID-19 pneumonia (Fig. 3) [6–8].

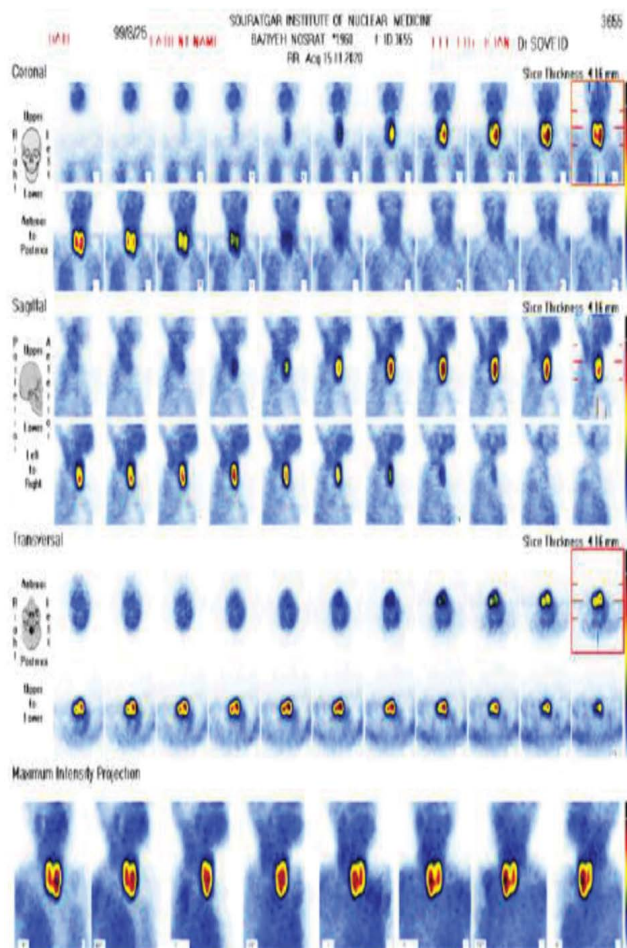


**Figure 1.** 53-year-old woman was consulted for hyperparathyroidism due to severe fatigue and mild dyspnea. Individuals are more often diagnosed today through routine biochemical laboratory testing done for other purposes [1]. Laboratory assays showed hypercalcemia: 10 mg/dL, high serum level of parathyroid hormone: (80 pmol/L), and normal serum phosphorus level 3 mg/dL. [<sup>99m</sup>Tc]MIBI parathyroid scintigraphy was performed.

<sup>99m</sup>Tc-sestamibi assessment has a well-defined clinical role in the surgical management of patients with primary hyperparathyroidism [2]. The scan was negative for abnormal parathyroid tissue. Significant diffuse uptake in both lung fields especially on the right side is noticed incidentally

Correspondence to: Yalda Moafpourian, Nuclear Medicine Department, Medical School, Shiraz University of Medical Science, Shiraz, Iran, e-mail: moafpourian@gmail.com

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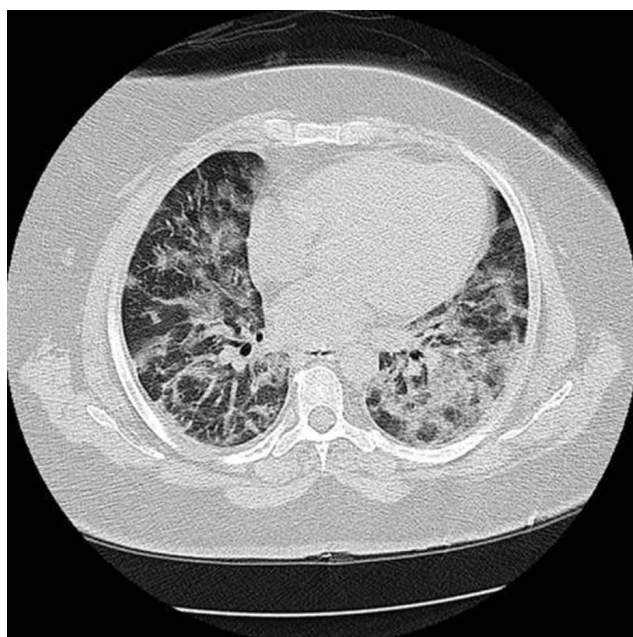
**Figure 2.** Parathyroid single photon emission computed tomography (SPECT) images, revealed diffuse bilateral lung uptake

### Conflict of interest

The authors have no conflicts of interest to declare.

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**Figure 3.** Transaxial computed tomography (CT) scan of the chest. Due to the primary involvement of the respiratory system, chest computed tomography is strongly recommended in suspected COVID-19 cases, for both initial evaluation and follow-up evaluation [3]. Recent studies addressed the importance of chest CT examination in COVID-19 patients with false-negative RT-PCR results [4]. Patients affected by COVID-19 pneumonia usually showed on chest CT some typical features, such as Bilateral ground-glass opacities characterized by multilobe involvement with posterior and peripheral distribution; parenchymal consolidations with or without air bronchogram; interlobular septal thickening; crazy paving pattern, represented by interlobular and intralobular septal thickening surrounded by ground-glass opacities; subsegmental pulmonary vessels enlargement (> 3 mm) [5]. The CT scan in this patient is demonstrating multiple peripherally distributed ground-glass opacities and some other typical features in both lung fields which are in favor of pneumonia induced by COVID-19 [6–8]