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Letter to the Editor

Possible role of ^{99m}TC-Sestamibi scintigraphy in the follow-up of Kawasaki-like disease related to SARS-CoV-2☆

Posible papel de la gammagrafía con ^{99m}TC-Sestamibi en el seguimiento de la enfermedad similar a Kawasaki relacionada con el SARS-CoV-2

On March 11, 2020 the World Health Origination communicated the SARS-CoV-2 outbreak a global pandemic. Despite the SARS-CoV-2 infection was initially define as a pulmonary disease, the most recent discoveries showed that this virus is able to induce impairment of several organs included hearth, kidney, liver, central nervous system and gastrointestinal apparatus.[1] Thus, the SARS-CoV-2 infection is considered a systemic disease now.

The first epidemiological analyses of SARS-CoV-2 infection seemed to indicate a lower susceptibility to this infection for children. Nevertheless, most recent studies highlighted several SARS-CoV-2-related diseases in both children and young.[1] In particular, several health service in the world reported an increase of Kawasaki-like diseases in the areas with high incidence of SARS-CoV-2 infection.[2]

In this scenario, in the Lancet Journal, Verdoni and colleagues[3] carried-out one of the most complete study about the incidence and features of patients affected by Kawasaki-like diseases during the SARS-CoV-2 pandemic. Specifically, authors reported a 30-fold increase incidence of Kawasaki-like diseases in children in the area of Bergamo (Italy) during the SARS-CoV-2 infection.[3] These patients frequently showed cardiac involvement with possible severe complications.

This datum is impressive and therefore needs of immediate and accurate investigations to identify the biological and molecular relationship between SARS-CoV-2 infection and Kawasaki pathogenesis as well as to develop/improve diagnostic procedure for diagnosis and follow-up of children affected by Kawasaki-like diseases. In fact, based on the epidemiological data of SARS-CoV-2 pandemic it is possible to expect a huge increase in the incidence of Kawasaki-like diseases in the world.

Despite no issues are generally described for the diagnosis of Kawasaki disease, the follow-up and the early identification of cardiac impairment can represent a diagnostic challenge. Indeed, although echocardiography is the most useful method of detecting coronary aneurysms in Kawasaki patients, obstructive lesions are difficult to evaluate and generally require invasive coronary angiography.

Our and other groups proposed the myocardial scintigraphy with ^{99m}TC-Sestamibi for cardiac evaluation of children affected by Kawasaki disease.[4,5] In these studies, ^{99m}TC-Sestamibi scintigraphy displayed a sensitivity and specificity more of 90% in detecting coronary lesions even in small infants (from 1 year old).[4,5] This imaging evaluation could be very useful in the follow-up of children affected by Kawasaki-like disease related to SARS-CoV-2 because it represents a non-invasive investigation capable to both detect obstructive cardiac lesions and, more important, identify aneurisms that generally causes long-term heart problems.

Therefore, in our opinion it could be of interest, and even more important in the interest of patients, to include the ^{99m}TC-Sestamibi scintigraphy, as well as all useful diagnostic investigations, in the management of patients affected by Kawasaki disease during the SARS-CoV-2 pandemic. In fact, the significant increase of the incidence of Kawasaki disease in pediatric age could lead to a higher percentage of childhood deaths (both immediately and in the long-term period).

In this dramatic pandemic, one of the most important priority for health systems and the scientific community must be to safeguard the health of the more fragile people and especially of our children.

Conflict of interest

Authors declare no competing interests.

Acknowledgments

None.

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☆ Please cite this article as: Urbano N, Scimeca M, Bonfiglio R, Bonanno E, Schillaci O. Possible role of ^{99m}TC-Sestamibi scintigraphy in the follow-up of Kawasaki-like disease related to SARS-CoV-2. Rev Esp Med Nucl Imagen Mol. 2022;41:201–201.