



CLINICAL PRESENTATIONS ASSOCIATED WITH SARS-COV-2 IN A COVID PEDIATRIC INTENSIVE CARE UNIT OF A NATIONAL HOSPITAL IN LIMA

PRESENTACIONES CLÍNICAS ASOCIADAS AL SARS-COV-2 EN UNA UNIDAD DE CUIDADOS INTENSIVOS PEDIÁTRICOS COVID DE UN HOSPITAL NACIONAL DEL PERÚ

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Mr. Editor

Coronavirus disease 2019 (COVID-19) affects more adults than children(1). Then the multisystem inflammatory syndrome in children (MIS-C) associated with SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus-2) was described, with an incidence peak of around 4 weeks after the peak of contagion. Therefore, it is postulated that this is a postinfectious entity, which is characterized by affecting multiple organs and systems (2,3). In response to this new necessity, the Pediatric Intensive Care Unit (PICU) in Hospital Nacional Edgardo Rebagliati Martins provided a separate two-bed room for the care of children with SARS-CoV-2 infection to reduce the risk of nosocomial infections. In order to describe the clinical presentations associated with SARS-CoV-2 infection, it was conducted a retrospective evaluation of the electronic medical records of patients admitted to the COVID PICU from April to October 2020. Data were collected, such as serologic and molecular test for SARS-CoV-2, age, sex, nutritional status, admission priority (4), length of stay in PICU, some comorbidity, and death. A three-group classification was carried out based on the clinical diagnosis and test results for SARS-CoV-2. COVID-19 group (acute respiratory distress syndrome (ARDS), record of contact with COVID-19 cases and testing for SARS-CoV-2); MIS-C group, according to WHO criteria (5); and Non-COVID-19/Non-MIS-C group, patients admitted for a condition unrelated to SARS-CoV-2, but on suspicion of the disease, they had to go to the separate area. This last group has been divided into two subgroups: SARS-CoV-2(+) with at least one positive SARS-CoV-2 test, and SARS-CoV-2(-) subgroup.

The first patient was seen on April 20th and the last patient was released on October 23rd, 2020. Thirty-six patients were seen (Table 1), three patients (8.3%) had COVID-19, with acute respiratory affection and two of them contracted the disease during their hospital stay in a non-COVID area. Thirteen patients (36.1%) had MIS-C, with hemodynamic impairment, and as reported in other studies, all had negative molecular test and positive serologic test, mainly IgG. One of the patients with a final diagnosis of MIS-C, who was the first seen, was admitted with a diagnosis of COVID-19 at the end of April, when the definition of MIS-C had not been disseminated, so the diagnosis was made after reviewing the clinical record. In Non-COVID-19/Non-MIS-C group (55.5%), in the SARS-CoV-2(+) subgroup (38.9%), the main problem of care was not related to the SARS-CoV-2 infection, but they were admitted to the COVID PICU to take precautionary measures against the possibility of spreading the infection. They were admitted as patients with suspected COVID-19 or suspected MIS-C that were finally ruled out; and in the SARS-CoV-2(-) subgroup (19.4%), all were admitted for respiratory failure and suspected COVID-19, however,

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infection was ruled out and other causes were found to explain the respiratory problem, mostly related to comorbidity.

In our experience, we have mainly attended patients with suspicion and/or record of SARS-CoV-2 or MIS-C infection. Acute SARS-CoV-2 infectious disease, which can spread up to 10 days after symptom

onset when mild or moderate, or up to 10-20 days when severe⁽⁶⁾, has been uncommon considering the magnitude of care in the adult population and could accelerate the normalization of care for other non-infectious diseases in the pediatric population affected by the pandemic.

Table 1. Epidemiological and laboratory characteristics of children based on clinical presentations associated with SARS-CoV-2 in a COVID Pediatric Intensive Care Unit.

		COVID-19† n (%)	SIMS †† n (%)	No COVID-19/No SIMS		Total n (%)
				SARS-CoV-2(+) n (%)	SARS-CoV-2(-) n (%)	
Cases		3(8.3)	13(36.1)	13(36.1)	7(19.4)	36(100)
Age, years *		0.7 [0.4-12.3]	8 [7-10.5]	9.7 [4.3-11.4]	1.5 [0.3-9.3]	8.2 [3-10.7]
Sex	F	1(33.3)	6(46.2)	5(38.5)	5(71.4)	17(47.2)
	M	2(66.7)	7(53.8)	8(61.5)	2(28.6)	19(52.8)
Nutritional status	Emaciated	1(33.3)	1(7.7)	0(0)	0(0)	2(5.6)
	Normal	2(66.7)	4(30.8)	7(53.8)	4(57.1)	17(47.2)
	Overweight	0(0)	3(23.1)	0(0)	2(28.6)	5(13.9)
	Obesity	0(0)	2(15.4)	2(15.4)	0(0)	4(11.1)
Admission priority	I	0(0)	13(100)	10(76.9)	2(28.6)	25(69.4)
	II	1(33.3)	0(0)	2(15.4)	1(14.3)	4(11.1)
	III	1(33.3)	0(0)	1(7.7)	4(57.1)	6(16.7)
	IV	1(33.3)	0(0)	0(0)	0(0)	1(2.8)
Length of stay in PICU *		4 [3-18]	6 [5-6]	5 [2-8]	6 [3-15]	5 [3-8]
Serologic test	IgM(-)/IgG(-)	2(66.7)	0(0)	2(15.4)	7(100)	11(30.6)
	IgM(-)/IgG(+)	0(0)	9(69.2)	7(53.8)	0(0)	16(44.4)
	IgM(+)/IgG(-)	1(33.3)	1(7.7)	1(7.7)	0(0)	3(8.3)
	IgM(+)/IgG(+)	0(0)	3(23.1)	3(23.1)	0(0)	6(16.7)
Molecular test	Negative	1(33.3)	13(100)	8(61.5)	7(100)	29(80.6)
	Positive	2(66.7)	0(0)	3(23.1)	0(0)	5(13.9)
Mechanical ventilation		3(100)	10(76.9)	8(61.5)	7(100)	28(77.8)
With comorbidity		3(100)	0(0)	4(30.8)	5(71.4)	12(33.3)
Dead		2(66.7)	1(7.7)	1(7.7)	1(14.3)	5(13.9)

* Median [interquartile range]

† COVID-19: Coronavirus 2019 Infectious Disease

†† MIS-C: multisystem inflammatory syndrome in children

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