What Does COVID-19 Do to heart in children?

Cardiovascular Impact of COVID-19 in Children

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Introduction

Since the beginning of the pandemic, coronavirus disease-2019 (COVID-19) in children has shown milder cases and a better prognosis than adults. Although the respiratory tract is the primary target for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), cardiovascular involvement is emerging as one of the most significant and life-threatening complications of SARS-CoV-2 infection in adults.

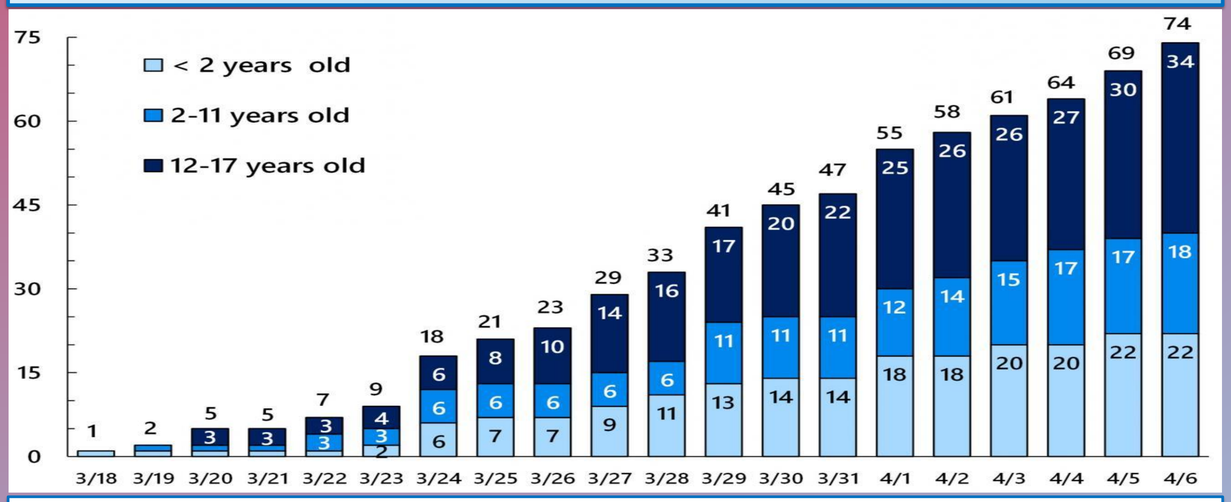
this poster is made in order to estimate the cardiovascular risks among covid-19 patients in children age group [1]

Methods

Multiple searches in MEDLINE, PubMed were performed using the search terms “COVID-19” or “SARS-CoV-2" were used in combination with “myocardial injury” or "arrhythmia" or “cardiovascular involvement” or "heart disease" or "congenital heart disease" or “pulmonary hypertension” or "long QT" or “cardiomyopathies” or “channelopathies” or ”Pediatric multisystem inflammatory syndrome" or "myocarditis" or "thromboembolism to identify articles published in English language from January 1st, 2020 until July 31st, 2020.[1,2]

Results

The meta-analysis of 16 studies with size > 10 patients and with complete data about cardiovascular involvement in children with PMIS showed that PMIS affects mostly previously healthy school-aged children and adolescents presenting with Kawasaki disease-like features and multiple organ failure with a focus on the heart, accounting for most cases of pediatric COVID-19 mortality. They frequently presented cardiogenic shock (53%), ECG alterations (27%), myocardial dysfunction (52%), and coronary artery dilation (15%). Most cases required PICU admission (75%) and inotropic support (57%), with the rare need for extracorporeal membrane oxygenation (4%). Almost all of these children wholly recovered in a few days, although rare deaths have been reported.[1,2]



Figure(1) Cumulative NO of Covid -19 pediatric intensive Care Unite[3]

Discussion

10 articles reporting sporadic cases of myocarditis, pulmonary hypertension and cardiac arrythmias in previously healthy children. also another 10 studies are found reporting patients with pre-existing heart diseases. Most cases consisted in children with severe COVID-19 infection with full recovery after intensive care support, but cases of death were also identified.[1,2]

Conclusion

Children (previously healthy or with pre-existing heart disease) with acute COVID-19 requiring hospital admission should undergo a cardiac workup and close cardiovascular monitoring to identify and treat timely life-threatening cardiac complications.

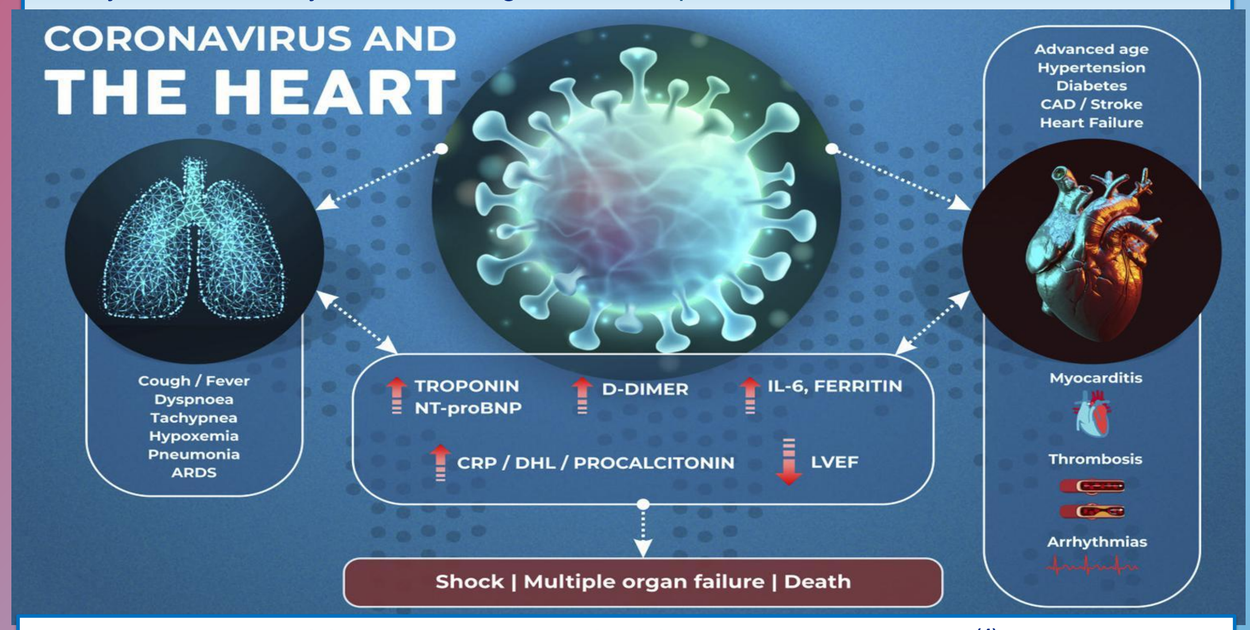


Figure (2)pathophysiology of of Covid -19 heart problem[4]

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References

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