

The Indian Journal of Pediatrics

Cardiac Affection in a Young Girl with Post Covid-19 Kawasaki Like Syndrome --Manuscript Draft--

Manuscript Number:	IJPE-D-20-01585R2
Full Title:	Cardiac Affection in a Young Girl with Post Covid-19 Kawasaki Like Syndrome
Article Type:	Scientific Letter
Keywords:	None
Corresponding Author:	Priyankar Pal, MD,MNAMS,FIAP Institute of Child Health Kolkata, WB INDIA
Corresponding Author Secondary Information:	
Corresponding Author's Institution:	Institute of Child Health
Corresponding Author's Secondary Institution:	
First Author:	Anil Kumar Singhi, MD, FNB(Pediatric Cardiology);Fellow Cardiology,
First Author Secondary Information:	
Order of Authors:	Anil Kumar Singhi, MD, FNB(Pediatric Cardiology);Fellow Cardiology, Soumya Kanti Mohapatra, MD Subhajit Dey Sarkar, MBBS Debapoma Biswas, MBBS Priyankar Pal, MD,MNAMS,FIAP
Order of Authors Secondary Information:	
Funding Information:	
Abstract:	None
Response to Reviewers:	1. We have included the names of the labs where the RT PCR and antibody tests were performed. Although both the labs have been duly acknowledged at the end of the manuscript, but we were unable to procure any written permission. 2. The IJP case report has been added.

Cardiac Affection in a Young Girl with Post Covid-19 Kawasaki Like Syndrome

AUTHORS:

1. Anil Kumar Singhi

Department of Pediatric Cardiology, Medica Superspeciality
Hospital, Kolkata, West Bengal, India

2. Soumya Kanti Mohapatra

Department of Pediatric Cardiology, Medica Superspeciality
Hospital, Kolkata, West Bengal, India

3. Subhajit Dey Sarkar

Department of Pediatrics, Institute of Child Health, Kolkata, West
Bengal, India

4. Debapoma Biswas

Department of Pediatrics, Institute of Child Health, Kolkata, West
Bengal, India

5. Priyankar Pal (Corresponding Author)

Department of Pediatric Rheumatology, Institute of Child Health,
Kolkata, West Bengal, India
Email: mailme.priyankar@gmail.com

1
2
3
4 *To the Editor* : Covid-19 affection in children has a wide spectrum varying from mild
5
6 respiratory symptoms to severe shock like presentations. We report a young girl who
7
8 developed Kawasaki Disease (KD) like syndrome with hypotension.
9

10
11 An eight-year-old girl presented with fever and headache, erythematous, non-blanching
12
13 rashes over her hands and trunk; along with non-bilious vomiting, epigastric pain and loose
14
15 stools for 3 d. On examination she was toxic, tachycardic with bilateral non-purulent
16
17 conjunctivitis. Her total leukocyte count was 10630/dl (90% Neutrophils), hemoglobin 11.7
18
19 g/dl, platelets 156000/cmm. Inflammatory biomarkers were significantly elevated; ESR 110/h,
20
21 C-reactive protein (CRP) 362 mg/L, ferritin 980 ng/ml and procalcitonin 9.63 ng/dl. Chest
22
23 radiograph was unremarkable. Liver and renal functions were normal but serum sodium was
24
25 low (125 meq/L). Common causes of febrile toxic children were excluded. Considering
26
27 persistent tachycardia even when afebrile, an underlying myocarditis was suspected.
28
29 Electrocardiogram showed sinus tachycardia, NT Pro BNP was 13343 ng/L, d-Dimer 5605
30
31 ng/ml. Echocardiogram showed 45% ejection fraction, left coronary artery was dilated (Z-
32
33 score 2.5); and was provisionally diagnosed as post Covid hyperinflammatory syndrome
34
35 (PIMS). She developed hypotension, was initiated on Adrenaline infusion along with
36
37 intravenous immunoglobulin (IVIG) at 2 g/kg plus low dose aspirin and was afebrile within
38
39 12 h, tachycardia subsided, BP improved and inotropes were weaned off. Covid-19 RT PCR
40
41 performed by ICMR approved kits (ICMR registration number DLPLL001) was negative but
42
43 antibody test from Thyrocare Kolkata (by Omega diagnostics kit using ELISA) was positive
44
45 (IgG 2.8 and total antibody 29.3). Echocardiogram after 72 h showed 60% ejection fraction
46
47 but the coronary artery remained dilated. She was discharged on low dose aspirin with
48
49 advice for follow-up echocardiography after 15 d.
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

1
2
3
4 Post Covid-19 Italian pandemic showed a surge of KD [1, 2]. Atypical presentation was
5
6 seen in half with coronary affection in approximately 20%, with very high NT pro BNP in
7
8 cases with cardiac dysfunction as in our case. Majority showed a positive response to timely
9
10 administration of IVIg with addition of steroids in cases of inadequate improvement.
11
12

13
14 Since the first report in an infant [3], globally reports are surfacing with few from India [4, 5].
15
16 High index of suspicion of PIMS in a sick child with multi system affection can help in
17
18 appropriate treatment.
19
20

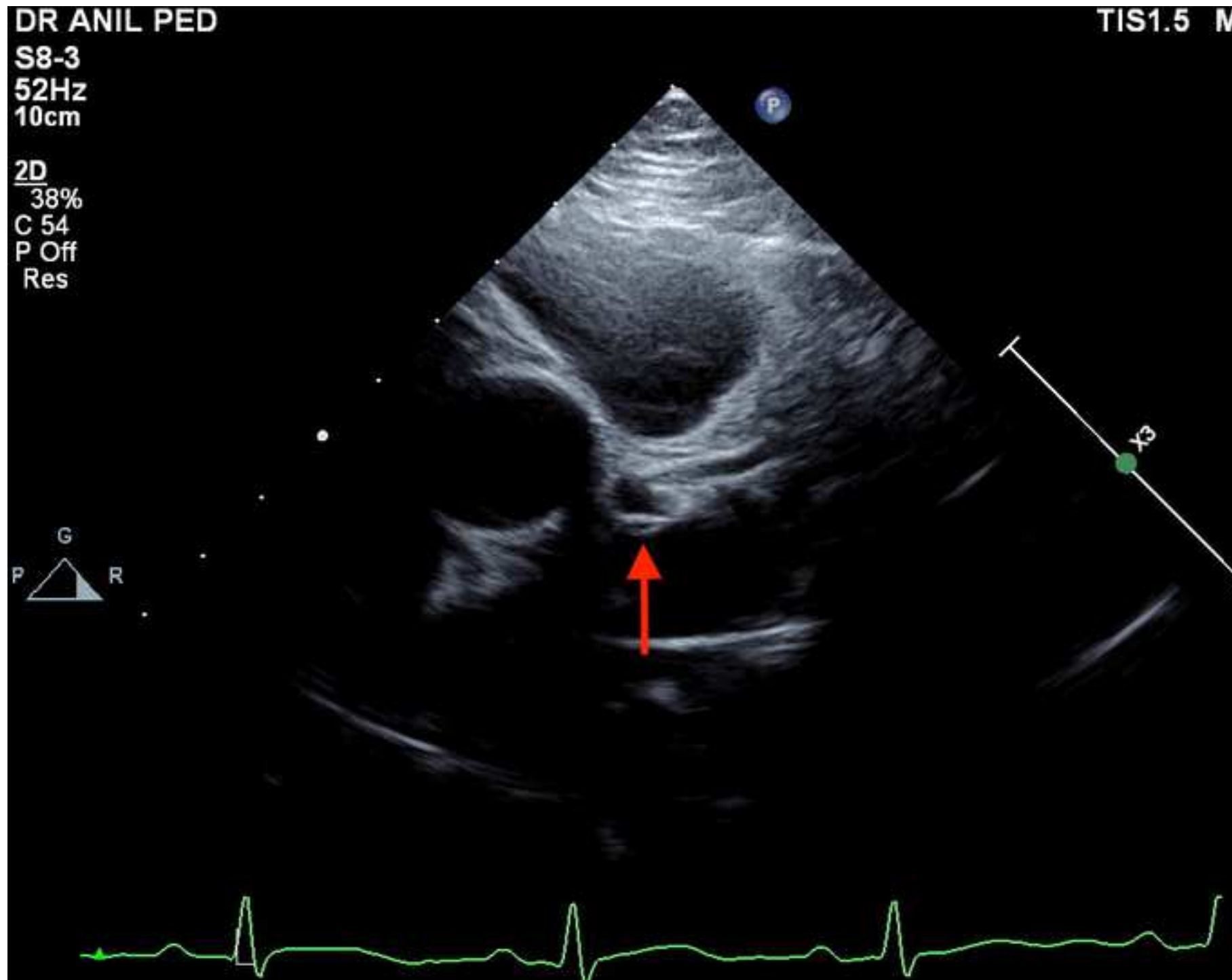
21 **Conflict of Interest** None.
22

23 **References**

- 24
25
26 (1) Ravelli A, Martini A. Kawasaki disease or Kawasaki syndrome? *Ann Rheum Dis.* 2020;
27
28 Doi:10.1136/annrheumdis-2020-218110.
29
30
31 (2) Verdoni L, Mazza A, Gervasoni A, et al. An outbreak of severe Kawasaki like disease at
32
33 the Italian epicentre of the SARS-CoV-2 epidemic: an observational cohort study. *Lancet.*
34
35 2020; [https://dx.doi.org/10.1016/S0140-6736\(20\)31103-X](https://dx.doi.org/10.1016/S0140-6736(20)31103-X).
36
37
38 (3) Jones VG, Mills M, Suarez D. COVID-19 and Kawasaki disease: novel virus and novel
39
40 case. *Hosp Pediatr.* 2020; Doi: 10.1542/hpeds.2020-0123. hpeds.2020-0123.
41
42
43 (4) Rauf A, Vijayan A, John ST, Krishnan R, Latheef A. Multisystem inflammatory syndrome with
44
45 features of atypical kawasaki disease during COVID-19. *Indian J Pediatr.* 2020; Doi: 10.1007/s12098-
46
47 020-03357-1.
48
49
50 (5) Dhanalakshmi K, Venkataraman A, Balasubramanian S, et al. Epidemiological and
51
52 clinical profile of pediatric inflammatory multi system syndrome – temporally associated with
53
54 SARS-COV-2 (PIMS-TS) in Indian children. *Indian Pediatr.* 2020; pii: s097475591600220.
55
56
57
58
59
60
61
62
63
64
65

1
2
3
4
5 **Legend**
6
7

8 **Fig. 1** M Mode echocardiogram in parasternal short axis showing (a) reduced cardiac
9 function at basal state with Ejection fraction (EF) 41.2% and (b) Improvement of cardiac
10 function post therapy, EF 55.1%
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65



To

The Editorial Office
The Indian Journal of Pediatrics

"As this manuscript does not contain any kind of content which can reveal patient's identity,
so, written informed consent was not taken from the guardians".

Author name: .Prof. Priyanka Pal

Date: 27.07.2020

Signature of the author

