PIMS – TS: Good outcome for children even when the heart is involved

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Study : Clinical Audit

Background:

Paediatrics inflammatory multisystem syndrome (PIMS-TS) is a post infectious complication of SARS-Cov-2 infection in children and shares some characteristics with Kawasaki disease and Toxic shock syndrome. It was first reported in April 2020. We aimed to describe the clinical presentation and outcome of children diagnosed with this hyper inflammatory condition in a district general hospital in UK.

Method:

This was a retrospective review that included all children (0 -18 year) of PIMS – TS, admitted to Pinderfield General Hospital over a period of 18 months (from August 2020 – January 2022). UK Royal College of Paediatrics and Child health diagnostic criteria were used for case definition. Both local and regional follow ups were reviewed to record the outcome.

Results:

21 patients satisfied the entry criteria, (M:F 1.3:1), ages ranging from 4 months to 15 years (median 8). Nine (33%) cases were from minority ethnic groups.

Clinical features given below. (Table 1)

Infection markers were elevated in all patients at initial presentation and during initial course of illness, but mostly normalized on 2 weeks follow up review.11/21 (52%) patients were hypotensive on arrival, of which 5 (45%) needed inotropic support in addition to I/V fluid boluses. 4/21(19%) of patients needed IVIG in addition to I/V antibiotics and I/V steroids.

Echocardiographic findings given below (Table 2)

Conclusion:

Although PIMS – TS does involve the heart in children, and shows cardiac involvement in acute stages, these children make good recovery and prognosis remains excellent with total resolution of the cardiac manifestations. Long term studies are required to ensure there are no late complications.

(Table 1)

Clinical Features	
Fever	21/21 (100%)
Cardiovascular involvement	17/21(81%)
GI symptoms	16/21(76%)

Skin rashes	13/21(62%)
Conjunctivitis	12/21(57%)
Lymphadenopathy (mainly cervical)	9/21(43%)
Headache & neck pain/neck stiffness	6/21(28.5%)
Respiratory symptoms	4/21(19%)

Echocardiographic findings (Table 2)

	On admission	2 – 4 weeks (Done in 17 pts.)	6 weeks (Done in 21 pts.)
Coronary artery changes (Increased echogenicity, mild dilatation)	5/21(24%)	2/17 (11.7%)	
Valvular involvement (Mild MR)	12/21(57%)	5/17 (29.4%)	3/21 (14.2%)
Functional impairment (Mild)	8/21(38%)		
Pericardial effusion	5/21(24%)		
Incidental finding (anomalous origin of RCA)	1/21 (4.7%)		1/21(4.7%)
Normal Echo	5/21 (24%)	10/17(59%)	17/21 (81%)