

Multisystem inflammatory syndrome in children (MIS-C) and retropharyngeal edema: A case series.

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Background : Multisystem inflammatory syndrome in children (MIS-C) is thought to follow SARS-CoV-2 infection and presents with fever and multisystem dysfunction. We report three children with suspected MIS-C found to have retropharyngeal edema without evidence of a bacterial etiology. We raise the possibility that an association between MIS-C and retropharyngeal edema exists.

ACADEMIC P.E.A.R.L.S

Pediatric Evidence And Research Learning Snippet



MIS-C & Retropharyngeal Edema : An Association

Discussion : The three patients presented in this case series were found to have retropharyngeal edema in the setting of presumed MIS-C. Retropharyngeal edema is thought to be due to altered lymphatics and can be identified as a finding in several clinical scenarios including inflammatory conditions such as calcific tendonitis and jugular vein thrombosis, or secondary to adjacent neck infections. The imaging findings on the patients presented here were relatively similar, showing retropharyngeal fluid without peripheral enhancement characteristic of a purulent bacterial infection or abscess.

Retropharyngeal abscesses are more typically associated with oropharyngeal bacteria such as group A Streptococcus and *S. aureus* yet several aspects of the case and local epidemiology at the time of presentation raised concern for MIS-C. All these cases were initially diagnosed to be retro-pharyngeal abscess, even gone to an extent of surgical exploration in one case. But later on confirmed to have diagnosis of MIS-C, treated with immunoglobulins, steroids and aspirin. It has been suggested that MIS-C shares features with Kawasaki Disease. As retropharyngeal edema has been described in the latter, it could also be considered here. Compared with the CT findings described in Kawasaki patients, the reported cases have similar appearance and presented with findings of retropharyngeal low density without peripheral enhancement. Thus, the apparent similarity between MIS-C and Kawasaki may stem from having two inflammatory conditions with relatively broad definitions.

Conclusion: Despite the limitations, these cases and our case do suggest a possible association between MIS-C and retropharyngeal edema. The association needs confirmation with additional studies as this could influence antibiotic and surgical management of retropharyngeal edema found in patients with MIS-C. Thus further studies are needed to evaluate and support this association.



Picture 1: CECT neck sagittal view depicting the retropharyngeal edema (arrow)

EXPERT COMMENT

“Recently we had a case of Multisystem Inflammatory Syndrome-Children (MIS-C) that presented as retropharyngeal swelling. (Picture 1). Retropharyngeal abscess is a surgical emergency. Infection should be promptly ruled out before initiating immunosuppressive therapy. There have been many case reports suggesting ileocecal, appendicular edema in MIS-C mimicking the acute ileocolitis/appendicitis. Thus pharynx being a part of gastrointestinal tract, inflammation in this area could also be the part of the spectrum in MIS-C.”

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With warm regards,

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