626 - Post-COVID-19 related neurological features in a pediatric population

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INTRODUCTION

Since the outbreak of COVID 19, novel coronavirus2 (SARS-CoV-2 infection) has been responsible for a systemic disorder including the nervous system. At the beginning of the pandemic, adults were more affected. Later, viral genome changes over time led to increased cases among children specially with the outflow of Omicron variant [1,2].

OBJECTIVES

We aimed to establish a cause-effect relation between COVID-19 infection and neurological presentation and identify the wide spectrum of its manifestations.

MATERIALS AND METHODS

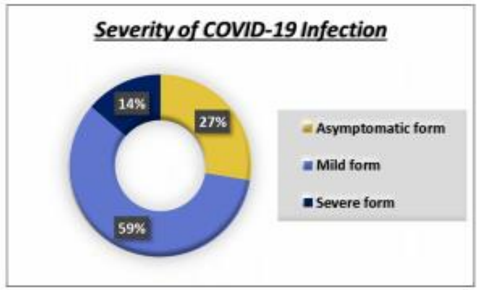
We retrospectively collected demographic, anamnestic, clinical and paraclinical data of pediatric cases presenting with neurological manifestations during or after confirmed SARS-CoV-2 infection at child neurology department of Sfax between January 2022 and August 2022. We used WHO Guidelines for cases definition and classification [3].

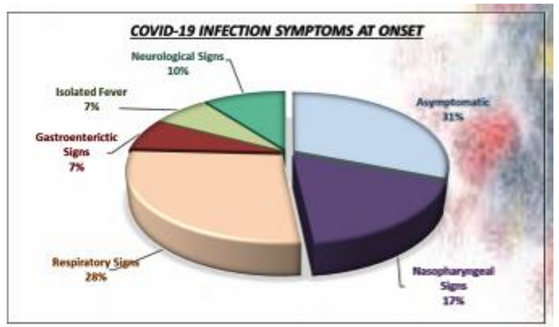
RESULTS

1- Demographic and anamnestic features:

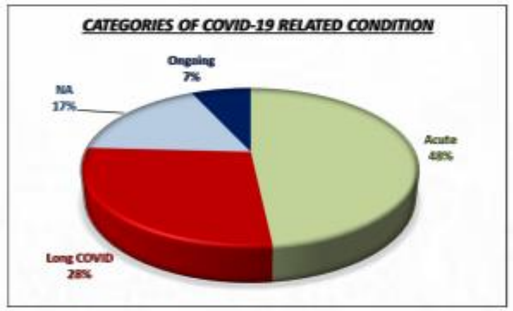
Overall, we included 17 males and 12 females. Mean age at onset was 71 months (1-194). Neurological symptoms occurred meanly 73 days (0-365) after onset COVID-19. The mean delay between neurological event and first visit for was 45,5 days (0-365).

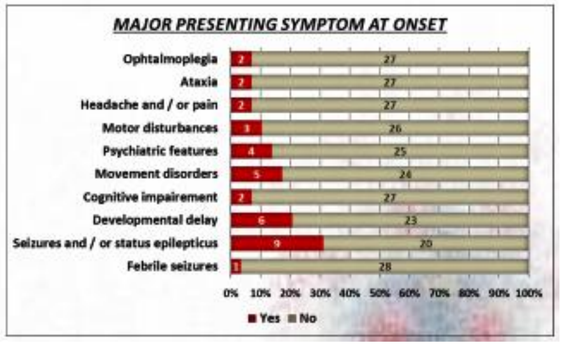
2- Data about COVID-19 infection:





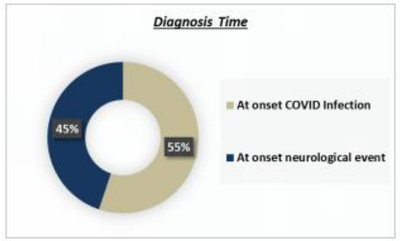
3- Data about Post-COVID19 related neurological events:

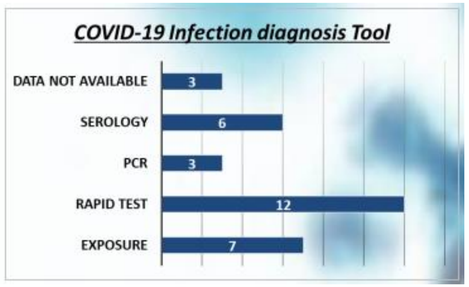


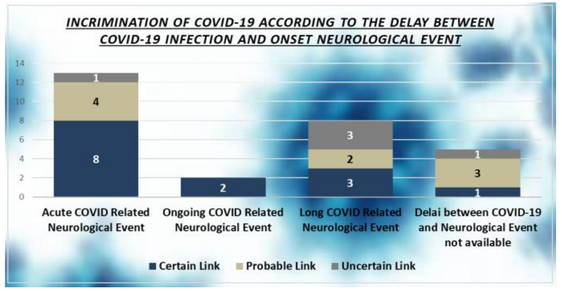


4- Data relative about the causal link between COVID-19 and the neurological event :

The causal link between COVID-19 infection and subsequent neurological disorder was established in only 48,3% cases. The certainty of such relationship correlated with shorter delay between COVID-19 infection and onset neurological event and first visit.







CONCLUSIONS

In the present study, relating the neurological event was sometimes challenging. The failure to establish such a relationship was linked to the delay from onset to first visit, ignorance of the infection in asymptomatic cases, lack of access to confirmation tests, delayed onset of neurological event after COVID-19 infection in addition to occurrence in predisposed children or those with prior chronic neurological conditions. The increased frequency of COVID-19 infection in children was explained by a greater affinity of the Omicron variant of the COVID-19 virus to the still immature human angiotensin-2 converting enzyme (ACE2) in children; fact that relatively protected the child from catching and developing severe forms of infection by other strains of the virus [4].

REFERENCES

1-Rapid rise in paediatric COVID-19 hospitalisations during the early stages of the Omicron wave, Tshwane District, South Africa | medRxiv [Internet]. [cité 7 juin 2022]. Disponible sur: https://www.medrxiv.org/content/10.1101/2021.12.21.21268108v1

2- Cloete J, Kruger A, Masha M, 2-du Plessis NM, Mawela D, Tshukudu M, et al. Paediatric hospitalisations due to COVID-19 during the first SARS-CoV-2 omicron (B.1.1.529) variant wave in South Africa: a multicentre observational study. Lancet Child Adolesc Health. mai 2022;6(5):294-302.

3- http://apps.who.int/iris/

4- Mutations of Omicron Variant at the Interface of the Receptor Domain Motif and Human Angiotensin-Converting Enzyme-2. Puja Adhikari. Int J Mol Sci 2022.