ORIGINAL RESEARCH PAPER

Neurology

KEY WORDS:

CASE SERIES:2 POST COVID YOUNG STROKES- 12 AND 16 YEARS

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INTRODUCTION:

Stroke in young adults comprises 10-15% of all strokes among patients. Approximately 15% of Ischemic strokes occur in young adults.[1] This is the major cause of morbidity & mortality in young patients.

Incidence of young stroke is on the rise. Along with various traditional risk factors, there are some emerging vascular, genetic and other unidentified risk factors implicated in the etiopathogenesis of young stroke

Background

Recognition of underlying vascular and genetic risk factors[2] may improve the awareness and optimise the outcome in young stroke patients.

Recent advances in the imaging technique, genetic testing and newer vascular imaging techniques has identified frequent abnormalities within the intracranial arteries, now labelled with a nondescript general term arteriopathy The major causes of brain ischemia in children[3] are

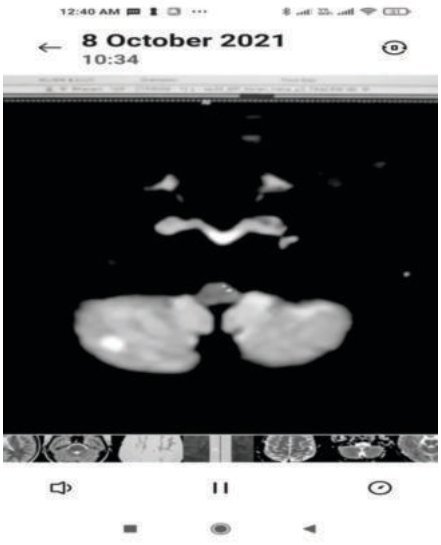
1. cardiac origin embolism
2. Arterial dissection
3. sinovenous thrombosis
4. coagulopathies
5. Arteriopathies.

Another important recent advance is development of registries and databases. Whether vascular or cardiac, these help the experts to develop effective guidelines for the prevention and treatment of young stroke patients

Case report:

Cerebrovascular accident are more common in the Covid pandemic era[4]. Ischemic stroke shows a 100 fold increase with very high mortality rate in adults. But in paediatric age group, this scenario is different. The evaluation strategy and clinical features in young children are entirely different. Children have a good prognosis relatively[5]. Here we are presenting two such young stoke which followed covid infection. Both of them have elevated covid antibody titres. They were covid positive in the recent past and recovered well to present with CVA.

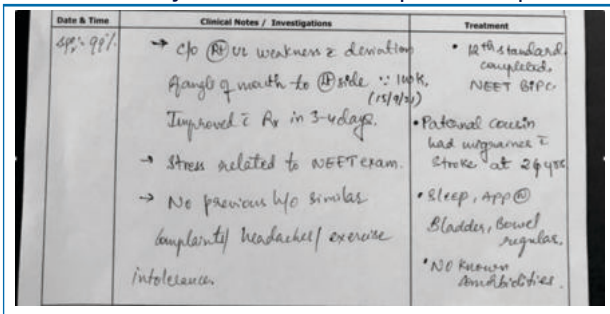
Case 1:

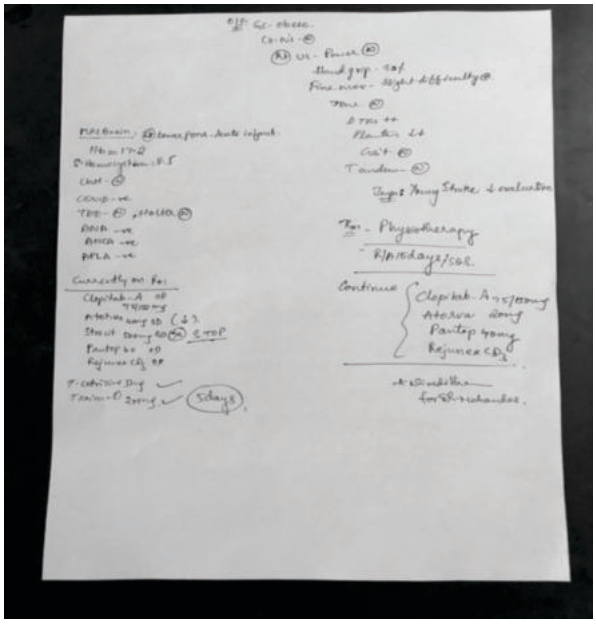


Case 1

12 year old female child with normal developmental history, both mental and motor with comorbid illness. Presented with acute onset fever[6] for one day and recurrent episodes of seizures. She had acute onset of giddiness, vomiting, unsteadiness, clumsiness and restlessness. She was admitted and evaluated and found to be COVID positive. Her image findings showed acute infarct in PICA territory. She was treated with antiplatelets, anticoagulants and other supportive measures. All other parameters including the coagulation profile, cardiac evaluation, metabolic evaluation were found to be normal. She recovered well

Case 2:





Case 2

16 yrs old, developmentally normal boy with no comorbidities, presented with weakness of left UL and LL and LMN facial palsy and slurring of speech, was admitted on 15/09/2021 GCS E4V5/M6 ANA profile, negative TEE – Normal, Lipid profile – Normal, MRI revealed. Acute infarct in the left side of lower pons. He was found to be COVID positive. He was treated with antiplatelets, Statins, Neuroprotectives, IV fluids, physiotherapy and supportive care.

DISCUSSION:

Mechanisms of COVID-19 Associated Cerebrovascular Manifestations are Impaired Coagulation, ACE2 receptor binding, CNS Vasculitis, Critical illness hypoxemia and Antiphospholipid antibody induction.

Ischemic stroke is the most common stroke subtype observed in association with SARS-CoV2 infection. Patients with severe infection and those with underlying vascular risk factors are at higher risk of developing stroke. A significant observation is the high incidence of large vessel occlusion(LVO) in these patients. Patients are younger as compared to contemporary negative controls and historical controls, with no known risk factors for LVO

Classification of COVID-19 Related Stroke

1. Probable Association:

Either SARS-CoV2 detected in CSF or other sample or there is evidence of SARS-CoV2 – specific antibody in serum indicating acute infection; and No other known traditional cardiovascular risk factors

2. Possible Association:

Either SARS-CoV2 detected in CSF or other sample or there is evidence of SARS-CoV2 – specific antibody in serum indicating acute infection; and Other traditional cardiovascular risk factors

CONCLUSION:

Finally paediatric stroke neurology a new breed, have sprung up who help the paediatricians and neurologist who care for stroke patients. More often than in adults, the cause of childhood stroke remains obscure, even after thorough evaluation. This was the basic inspiration for me to present these two cases in this elite forum.

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