

Neurological complications due to chicken pox in adults: A retrospective study of 20 patients

Sir,

Varicella zoster virus (VZV) causes primary infection (chicken pox) and reactivation (herpes zoster).^[1] Chicken pox in children is usually self-limiting with cerebellitis as the most common neurological complication.^[2] However, in adults, VZV can cause serious neurological complications. The mechanisms responsible for neurological manifestations have been attributed to direct neurological damage, immune mediated and, recently, due to infection of the blood vessels by VZV (VZV vasculopathy).^[3] Published Indian data on chicken pox-associated neurological complications are very sparse, with only a few case series^[4-6] mostly limited to children. Hence, we have carried out this study to specifically look for chicken pox-associated neurological complications in adults.

Materials and Methods

This was a retrospective study of all patients (aged 13 years and above) admitted over 2 years. The patients with herpes zoster complications were excluded. Case records of 20 patients were included in this study. This study was carried out with after obtaining approval from the Scientific Advisory Committee and the Ethics Committee of the Institute.

Results

There were 20 cases in total. The male:female ratio was 17:3. Out of the 20 patients, 13 patients had active

lesions at the time of development of the neurological complications.

The neurological manifestations were as follows: Encephalitis (10), cerebellitis (4), cortical venous thrombosis, (4) and arterial stroke (2). The clinical manifestations, investigations, and outcomes of these patients are presented in Table 1.

Encephalitis was seen in 10 patients. Mean duration of presentation from the onset of skin lesions was 5.8 days, and 8 patients had active skin lesions. All patients received acyclovir. The oldest patient died and the rest recovered without any significant deficit.

Ataxia was seen in four patients. All developed ataxia within 2 weeks of onset of skin lesions. One patient had persistent ataxia and the rest improved.

Cortical venous thrombosis was seen in four patients. Two patients presented 2 months after chicken pox. All the four patients had extensive sinus thrombosis and two patients died due to massive infarct.

Two patients developed arterial infarcts. The first patient presented within 4 days of skin lesions and imaging showed pontine infarct. The second patient presented 14 days after the onset of rash and computed tomography (CT) showed ganglio-capsular infarct.

Table 1: Table showing the details of all the patients

No	Age	Sex	Interval	Active skin lesions	Clinical presentation	Imaging findings	CSF (protein, glucose, cells)	Treatment	Outcome
Encephalitis									
1	13	M	4 days	Yes	Fever, altered sensorium	Normal	Not done	Acyclovir-18 days	Alive
2	18	M	6 days	No	Fever, altered sensorium seizures	Normal	Normal	Acyclovir-10 days	Alive
3	28	F	8 days	No	Fever, altered sensorium seizures	Cerebral edema	Normal	Acyclovir-10 days Ceftriaxone, Phenytoin-14 days	Alive
4	68	M	7 days	Yes	Fever, altered sensorium	Not available	Not available	Acyclovir-3 days	Expired
5	22	M	6 days	Yes	Fever, altered sensorium seizures	Normal	Normal	Acyclovir-10 days Ceftriaxone, Phenytoin-20 days	Alive
6	60	M	5 days	Yes	Fever, altered sensorium seizures	Not done	Normal	Acyclovir-5 days	Alive
7	20	M	7 days	Yes	Altered sensorium, seizures	Normal	Not done	Acyclovir-10 days	Alive

(Continued)

Table 1: (Continued)

No	Age	Sex	Interval	Active skin lesions	Clinical presentation	Imaging findings	CSF (protein, glucose, cells)	Treatment	Outcome
8	13	M	4 days	Yes	Seizures, visual hallucinations	Normal	Not done	Acyclovir-10 days	Alive
9	55	M	5 days	Yes	Fever, seizures and altered sensorium	Normal	Not done	Acyclovir-10 days	Alive
10	27	F	6 days	Yes	Seizures, altered sensorium, quadriparesis		850 cells/mm ³ 90% neutrophils increased protein and decreased sugar	Acyclovir-10 days Prednisone-15 days	Alive
Cerebellitis									
11	14	M	14 days	No	Fever, slurring of speech, unsteadiness, altered sensorium	Normal	Normal	Acyclovir-10 days	Alive
12	13	M	3 days	Yes	Unsteadiness, difficulty in walking, slurred speech	Normal	Not done	Acyclovir-7 days	Alive
13	15	M	8 days	No	Fever and cerebellar signs	Not done	Not done	Acyclovir-10 days	Alive
14	50	M	5days	Yes	Ataxia persisting for 6 months	Cerebellar atrophy	Not done	Nil	Alive
Cortical venous thrombosis									
15	27	M	10 days	Yes	Seizure, altered sensorium, left hemiplegia	6×5 cm R occipitotemporal hemorrhagic infarct	Not done	Acyclovir-14 days Ceftriaxone and phenytoin-14 days	Alive
16	27	M	10 days	Yes	Seizures, aphasia, altered sensorium	8×3 cm L parietotemporal lobe with midline shift	Not done	Decompressive craniotomy	Expired
17	50	M	2 months	No	Headache, seizure, aphasia, right hemiplegia	13×6 cm L frontoparietal hemorrhagic infarct	Not done	Decompressive craniotomy	Expired
18	15	F	2 months	No	Left hemiplegia, altered sensorium	5×5 cm R parietal hemorrhagic infarct	Not done	Anticoagulation	Alive
Stroke									
19	35	M	12 days	No	Weakness of upper and lower limbs, aphasia	Ganglio capsular infarct	Not done	Aspirin	Alive
20	25	M	4 days	Yes	Hypotonia of limbs	right pontine infarct	Not done	Acyclovir for 14 days	Alive

We did not come across any cases of Guillain–Barré syndrome or Myelitis in our study.

Conclusion

Based on our study, we conclude that encephalitis might be more common in adults as compared to cerebellitis that is predominantly seen in children. We hope that this series will be of help for clinicians who treat adults with chicken pox.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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