Rare Presentation of Basal Ganglia Stroke

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Case presentation

We present a case of 69 year old male patient who was brought to the emergency room of our hospital with complaints of fever for 3 days and seizure 2 episodes of GTCS three hours before coming to hospital. On arrival in the ER he was conscious and oriented to time, place and person. His GCS was E3V4M6. No motor or sensory deficit was present. He was afebrile, mild dehydration was present. His rest of vitals were within normal range. He had a past history of hypertension and diabetes for which he was taking regular medicines. MRI brain was done on the same day, which showed generalized age related cerebral atrophy with periventricular chronic ischemic changes. No evidence of acute infarct or bleed was seen. Supportive treatment started and he was shifted to ICU for further management. A diagnostic lumbar puncture was done, which was within normal limits. No malignant cell seen in CSF. His vitals remained stable and within normal limits. There was no evidence of any new seizure. He was normally talking and following all treatment related advises. However, on the second day of ICU admission his son during ICU visiting hour noted that though he was understanding and answering all his questions correctly, but his responses were slightly delayed than usual (apathy)(1,2,3). A repeat MRI was done which showed acute infarct involving left basal ganglia and adjacent corona radiata region with restriction on diffusion weighted images. Apart from subtle apathy there was no other sign or symptom suggestive of stroke. The patient was managed conservatively and was discharged to home with uneventful recovery.

Conclusion-A new onset seizure in an elderly patient should be evaluated for cerebrovascular disease and stroke.Only apathy could be symptom of basal ganglia stroke. Further family members and primary caregiver should be included during neurological assessment to find out subtle neurological changes.

Key words: *Basal ganglia, stroke, rare, GTCS*

Background

We present a case of 69 year old male patient who was brought to the emergency room of our hospital with complaints of fever for 3 days and seizure 2 episodes of GTCS three hours before coming to hospital. On arrival in the ER he was conscious and oriented to time, place and person. His GCS was E3V4M6. No motor or sensory deficit was present. He was afebrile, mild dehydration was present. His rest of vitals were within normal range. He had a past history of hypertension and diabetes for which he was taking regular medicines. MRI brain was done on the same day, which showed generalized age related cerebral atrophy with periventricular chronic ischemic changes. No evidence of acute infarct or bleed was seen. Supportive treatment started and he was shifted to ICU for further management. A diagnostic lumbar puncture was done, which was within normal limits. No malignant cell seen in CSF. His vitals remained stable and within normal limits. There was no evidence of any new seizure. He was normally talking and following all treatment related advises. However, on the second day of ICU admission his son during ICU visiting hour noted that though he was understanding and answering all his questions correctly, but his responses were slightly delayed than usual (apathy) [1,2,3]. A repeat MRI was done which showed acute infarct involving left basal ganglia

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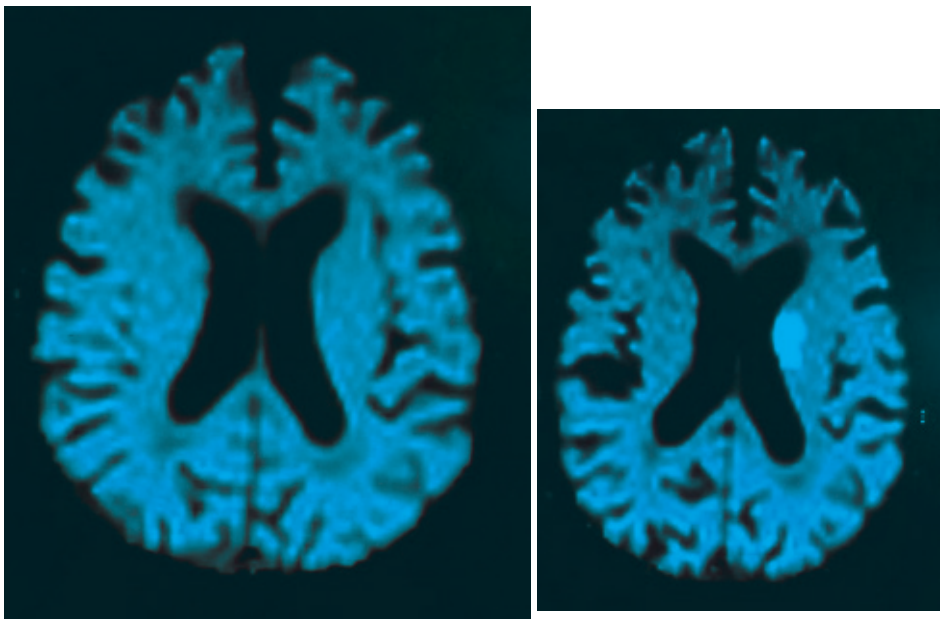
and adjacent corona radiata region with restriction on diffusion weighted images. Apart from subtle apathy there was no other sign or symptom suggestive of stroke. The patient was managed conservatively and was discharged to home with uneventful recovery.

Discussion

The case we have presented here is unique as first it exemplify heraldic seizure [5] with a rare case where seizure is documented prior to stroke along with a radiological evidence where first MRI(image 1) was normal and second MRI(image 2) shows acute infarct. To best of our search there is only one another case report of radiologically documented heraldic seizure [5].



MRI brain section on day of presentation: Image 1 MRI brain section after 2 days : Image 2

The term heraldic seizures indicates epileptic seizures occurring before a stroke [5]. A recent meta-analysis has shown that late onset seizures especially after age of sixty can be associated with ancedent stroke. A retrospective study by Cleary P et al. [6] showed that the late onset (after age of 60 years) seizure are associated with three fold rise in risk of stroke. Futher a recent metanalysis by johan zelano et al [7] showed that Seizures or epilepsy preceded 1.48% of strokes in patients > 60 years of age. Though there are case report of heraldic seizure but there is only one case report where the radiological evidence established the temporal relation between seizure preceding acute stroke [5]. In the present case report the first MRI done on the day of seizure was showing no acute infarct whereas a repeat MRI after two days show a acute infarct(image 2). The case highlights the importance that stroke should be considered as one of cause of seizure, especially in patients with age more than 60 years with other common causes ruled out [11].

Secondly the present case report presents a case of basal ganglia stroke presenting with only a subtle apathy with no other motor or sensory or affective symptoms [8]. Though basal ganglia stroke is known to be associated with apathy and other affective symptoms [1,4,8,9,10] but presenting with apathy alone is rare. There is only one case report where apathy was the only symptom in basal ganglia stroke [1].

The present case highlights the fact that not only the neurological examination should be done meticulously but also the fact that while assessing the neurological status of the patient the primary caregiver or close relatives of patients should be actively involved. They are the best guide to find out minor or subtle changes in behavior which can be easily missed otherwise.

A new onset seizure in an elderly patient should be evaluated for cerebrovascular disease and stroke [11].Only apathy could be symptom of basal ganglia stroke.

Conclusion

Family members and primary caregiver should be included during neurological assessment to find out

subtle neurological changes.

Abbreviations- GTCS-Generalized tonic-clonic seizure,GCS-Glasgow Coma Scale,MRI-Magnetic Resonance Imaging,ICU- Intensive care unit.

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Authors' contributions-Equal

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