

(CASE REPORT)



Unusual presentation of road traffic accident

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Abstract

Unmasking the face of Road Traffic Accident and diagnosing blunt cervical trauma at the earliest and preventing morbidity of patient with cerebrovascular accident caused by the road traffic accident.

Keywords: Road Traffic Accident; Cerebrovascular Accident; Weakness; Blunt Trauma Neck; Loss of consciousness; paucity.

1. Introduction

This is about a case we received in our ED a month ago, a 52-year-old male presented to ED with a/h/o road traffic accident [2 wheeler vs 4-wheeler] - history obtained by patient.

- History of loc present for 5 minutes.
- No h/o seizures /vomiting /nasal bleed
- He was known case of HTN and was on treatment for the same
- Primary survey airway-patent
- Breathing -RR of 26 CPM spo2-97% @room air
- Circulation- pr-90bpm
- Bp-130/80 MMHG all peripheral pulses well felt
- Disability
- GCS 15/15
- Pupils 3mm B/L reacting to light
- Grbs-121 mg /dl
- Exposure
- Temp-98 F
- Cut lacerated wound over left parietal region measuring about 6*2cm
- Adjuncts
- CT BRAIN
- CHEST XRAY
- XRAY PBH
- USG FAST
- CT BRAIN

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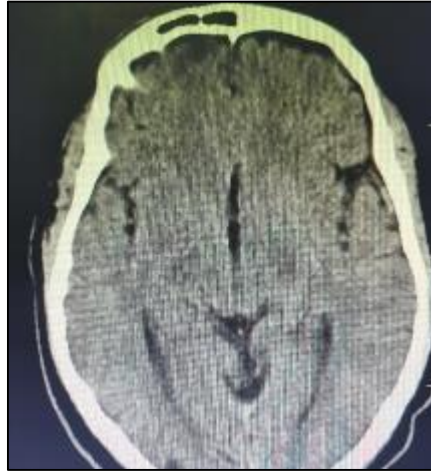


Figure 1 CT BRAIN



Figure 2 Chest X Ray



Figure 3 X ray pelvis with bilateral hip

1.1. Provisional diagnosis

- Traumatic brain injury
- Soft tissue injury

1.2. Secondary survey

Sample history - relevant history known HTN on treatment

1.2.1. GPE and systemic examination

Systemic examination normal

CNS: patient conscious oriented, moves all 4 limbs

CCT, PCT, PDT, no spine tenderness

Local examination: CLW over left parietal 6*2cm sutured with Ethilon.

Evaluation

Patient was initially treated conservatively and sent for investigations CT brain, chest X ray, USG fast, X ray PBH was normal.

Cut lacerated wound was sutured

Patient was drowsy for a brief period but returned to normal sensorium simultaneously. He had another similar episode after an hour.

Patient continued to drowsy for brief period and again return back to normal [2 times]

Repeat CT scan was done after 6 hours which also turned out to be normal patient was advised admission for observation and shifted to ward.

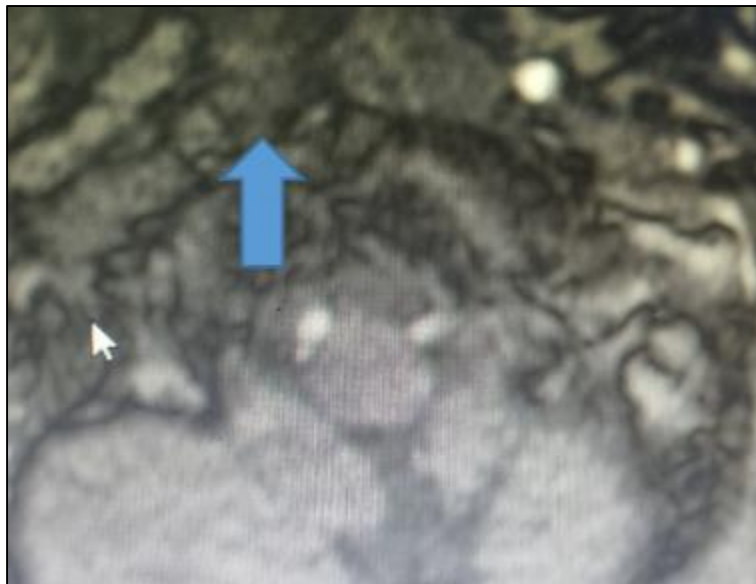


Figure 4 MR ANGIO

After 10 hours of admission, patient had paucity of movements of right side (power of 4/5) only in the upper limb with slurred speech, neurologist opinion was taken and MRI brain with MR angiogram was done which showed acute infarct in left middle cerebral artery territory.

MRI brain with MR angiogram revealed diffuse narrowing of right common carotid artery and complete loss of flow from its origin throughout course.

Patient was treated conservatively with antiplatelets, anticoagulants patient's condition improved from power of 4/5 to 5/5.



Figure 5 CT brain at time of discharge

QUESTIONS????

IS IT THE CVA HAD LEAD TO RTA? OR THE RTA LEADING TO CVA?

2. Case 1

A 31-Year-old male sustained a blow to the right lateral neck while playing basketball. the same night patient had left arm and leg weakness accompanied by facial droop, the latter resolving prior to presentation to ED [3]. This patient had localized tenderness over paracervical muscles and residual left arm and leg weakness. He had no carotid bruit and remainder of his physical examination was unremarkable. ACT brain done at the time of presentation was normal which was read by a neurologist. His echo scan was normal and was discharged with diagnosis of concussion injury

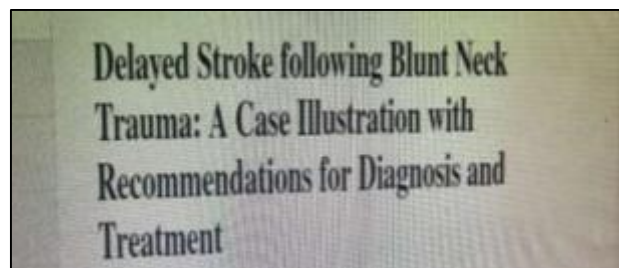


Figure 6 CVA following Blunt Neck Trauma

Four days after the injury occurred, the same patient presented with persistent dizziness, right-sided headache, and left-sided weakness. During the physical exam a left-sided pronator drift was noted. Magnetic resonance imaging (MRI) of the brain demonstrated an acute ischemic infarct in the right frontoparietal lobe.

3. Discussion

Blunt trauma to the neck are thought to include cervical hyperextension or hyper flexion. These mechanisms can lead to tearing of the intima, which creates a local thrombogenic area within the lumen.

This can form a pseudo aneurysm.

Imaging modalities to diagnose BCVI include Duplex ultrasound, CTA, MRI, magnetic resonance angiography (MRA), and digital subtractive angiography (DSA) [4].

BCVI is graded based on The Denver Screening Criteria (DSC) to categorize the extent of arterial vessel wall injury in BCVI, defined as injury to the carotid or vertebral arteries caused by blunt force trauma.

Cerebrovascular injuries are divided into five categories with grades ranging from one to five

Grades 1 and 2 are low grade with less than and greater than 25% luminal stenosis, respectively. Grade 3 is defined by pseudoaneurysm and grade 4 by complete occlusion, while grade 5 is defined by free extravasation [1].

Despite having an established grading system, BCVI can be difficult to diagnose on imaging.

3.1. Treatment

The current initial recommendation for the management of BCVI is antithrombotic therapy. Antiplatelet therapy reduces the risk of arterial thrombosis formation, which can help to prevent a cerebral infarction. In addition, anticoagulation therapy with heparin has been associated with neurological lateralization deficit improvement [5].

4. Case 2

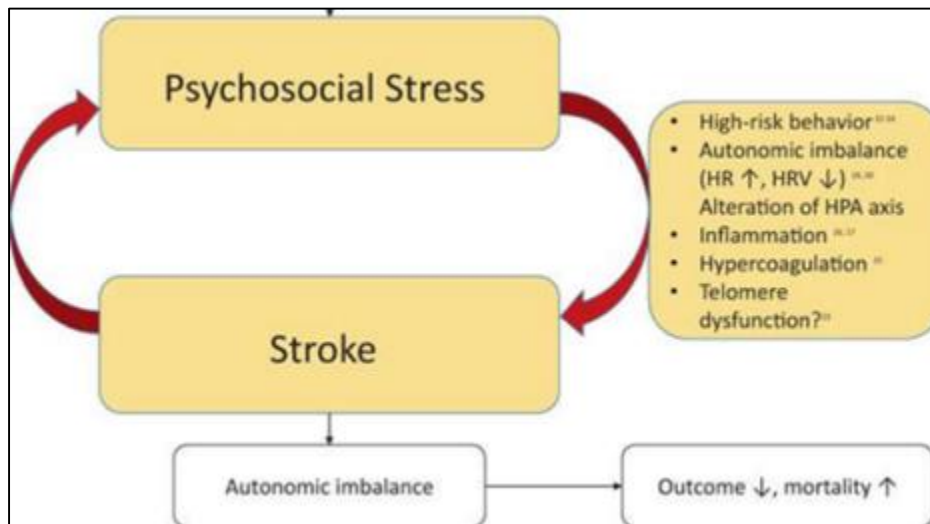


Figure 7 Stress Leading to CVA

Stress can increase the cerebrovascular disease risk by modulating sympathomimetic activity by affecting the blood pressure reactivity, cerebral endothelium, coagulation and heart rhythm increased catecholamine release and sympathetic activation which directly or indirectly affect the vascular system [2].

5. Conclusion

Making the diagnosis of cerebral ischemia caused by BCVI requires a high index of suspicion. Even in the presence of negative CT and CTA imaging, MRI of the brain and cerebral vessels should be considered when symptoms persist. Patients with a history or presentation consistent with TIA should be admitted and thoroughly evaluated to ensure timely diagnosis and treatment.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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