

A Rare Case of Isolated Unilateral 12th Nerve Palsy due to Vertebral Artery Dissection

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INTRODUCTION

Isolated hypoglossal nerve palsy is rare due to its complex course and close proximity to other cranial nerves and vessels. It also represents a diagnostic challenge in every day clinical practice due to its diverse etiologies. There have been many published single case reports on isolated unilateral hypoglossal nerve involvement but case series are sparse in neurological literature. Till date there have been only two published case series on this subject, one including four patients and another nine patients. Keane et al. published his personal experience of 26 years on hypoglossal nerve palsy in 100 patients with or without the involvement of other brain stem structures. Thus, it would be worthwhile to state that isolated and unilateral hypoglossal nerve palsy seems either extremely rare or under-reported. Present case series includes 12 patients of isolated unilateral hypoglossal nerve palsy due to different etiologies, making it the largest case series till date, to the best of our knowledge [1-5].

Vertebral artery dissection (VAD) is a rare cause of stroke in the general population; however, represents one of the more common causes of stroke in patients younger than 45 years of age. Its signs and symptoms can be vague, and diagnosis can be elusive [6-8]. Spontaneous dissections have been reported. However, incidental minor trauma often precipitates this potentially dangerous condition. Often some neck distortion such as chiropractic manipulation, bending of the neck or blunt trauma causes the dissection. The dissection of the artery may ultimately lead to a stroke which often can be delayed for days following the acute dissection.

PATIENT DETAILS & PRESENTING HISTORY

55 year old female presented to gm opd with complaints of difficulty to pronounce certain words and difficulty in propelling food from oral cavity to pharynx for past 5 hours. Complaints started insidiously progressed over a period of 3 hours to the current severity. History regarding other cranial nerves, higher mental functions, spinomotor system, sensory system, cerebella system and autonomic system revealed no significant complaints even after extensive inquest.

Patient was having difficulty in propelling food increasing in intensity for 5 hours. Patient couldn't move tongue towards right side of the mouth. There was no difficulty in chewing food and no nasal regurgitation.

History of fall from 2 wheeler before 6 years. Evaluation of the RTA was done in GH, no spinal or cranial fractures were detected. Patient stayed in hospital for only 2 days after which she was discharged at request. Patient has no known comorbid illnesses. No similar complaints were found in immediate family. Not a k/c/o t2dm, shtn, thyroid disorder, CVA, CAD.

EXAMINATION

- Patient is right handed, conscious, oriented and a febrile.
- No pallor, icterus, cyanosis, clubbing, generalized lymphadenopathy and pedal oedema.

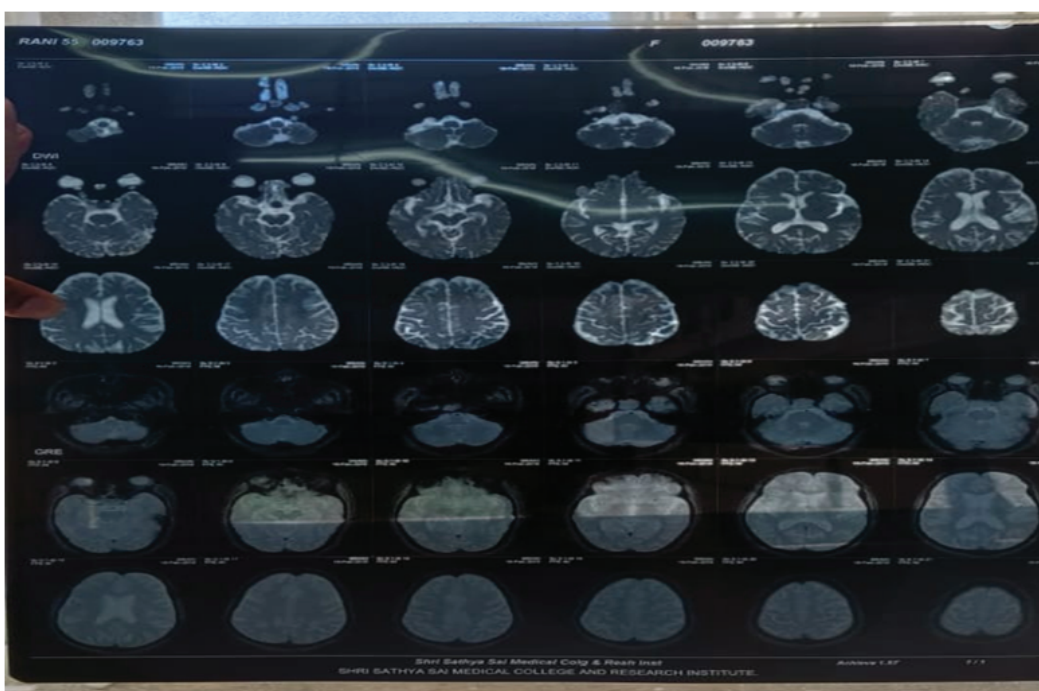
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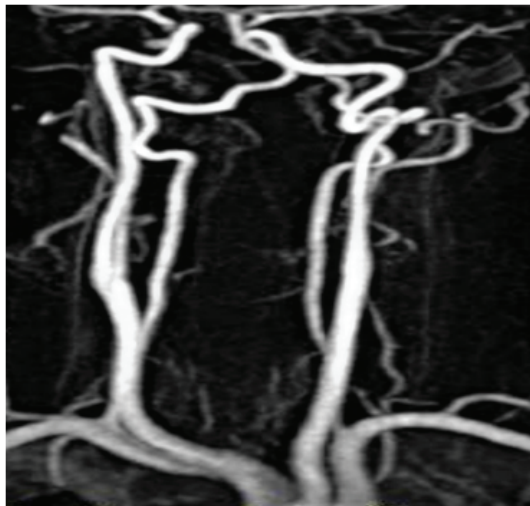
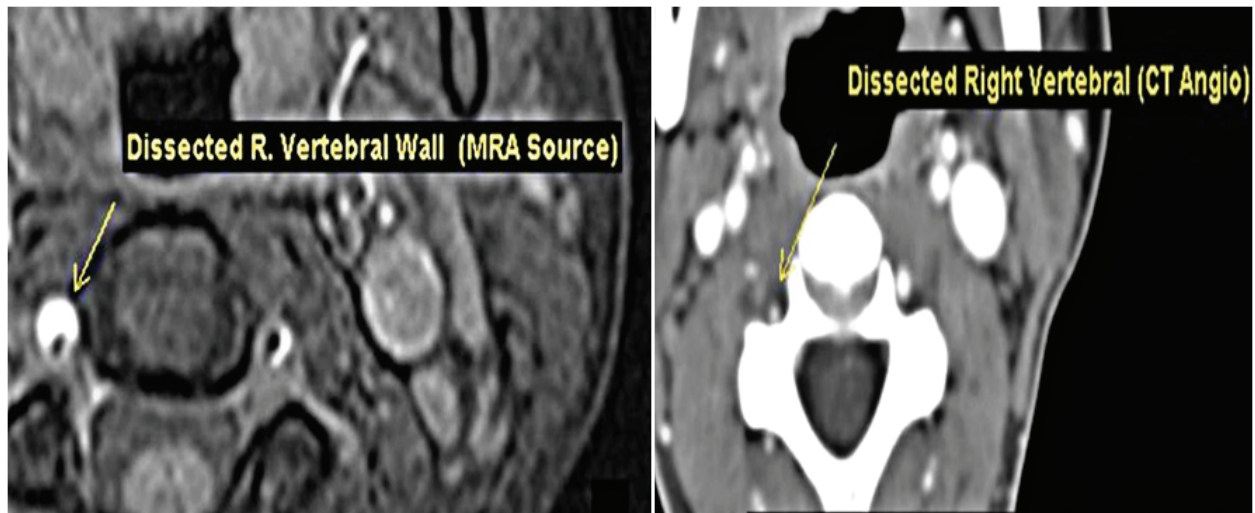
- BP- 130/70 mm Hg measured in left arm in sitting position, no postural variation.
- Pulse rate- 82 beats per minute, normal volume, regular, no specific character, all peripheral pulses felt equally.
- Respiratory Rate- 12 per minute
- No neurocutaneous markers
- JVP not elevated and carotid pulsations felt normally, no bruit

heard.

Examination of Higher Mental Functions

- Patient is right handed
- Speech: Specific word dysarthria + (lingual dysarthria) – patient is unable to pronounce words that require help of tongue for proper articulation (Laila)
- Other higher mental functions are normal.





Examination of Cranial Nerves

- Other than 12th nerve all other cranial nerves are normal.
 - 12th nerve
1. Fasciculation's are seen over the right half of the tongue
 2. Wasting seen over the right half of the tongue
 3. Patient is unable to move tongue towards right buccal mucosa.
 4. On protrusion, tip of the tongue is deviated to right side.
 5. Power of tongue on right side is 0/5.

Examination of other Aspects of Nervous System

- Spinomotor system- normal
- Sensory system- normal
- Cerebellum- normal
- Autonomic system- normal
- No signs of meningeal irritation
- Other system examination revealed no abnormalities

Diagnosis

Isolated right 12th cranial nerve LMN palsy

Course in Hospital

Patient was admitted in female medical ward a basic blood investigations done. Hb-12.3; RBC-4.3 mill/cum; PCV-38%; MCV-88

pg MCHC-32 g/dl; TLC-7,440/cumm; PLT-1.3 lac/cubmm; DC-N-56; L-26; E-02, M-06, FBS-89, PPBS-124 mg/dl. TFT-T3-1.15, T4-11.03, TSH-2.1, Sr.calcium -8.3, Sr ACE level-wnl. HIV-non reactive, VDRL-non reactive. ENT opinion was obtained, video laryngoscopy till vocal cords was done, revealed no abnormalities. Ct scan done showed nil significant abnormality except chronic infarct in left central semiovale.

- MRI Brain -Normal
- Magnetic resonance angiography of neck-Narrowing of the right vertebral artery, the vertebral artery narrowed approximately 1cm from its origin until the level of C2- s/o Vertebral Dissection.
- CT Angiogram of Neck- Right vertebral artery dissection with double lumen with true lumen narrowed.

MANAGEMENT

- Patient was started on anti-platelets, statins initially in emergency followed by warfarin (Anti coagulant).
- Speech therapy given
- The case was followed up in our regular opd 2nd weekly
- PT inr was monitored warfarin dose adjusted.
- Patient was symptomatically better after a month.
- Repeat MRA showed recanalization of vertebral artery.
- Recanalization of vertebral artery -3months review MRA

DISCUSSION

It's a Unusual case of isolated hypoglossal nerve palsy secondary to vertebral artery dissection in the lower neck. Vascular, inflammatory, traumatic or SOL can affect the CN 12 in its course. In our case clinical and neuroimaging suggested to conclude embolization from extracranial vertebral artery to the vaso nervorum of the distal intracranial arteries resulted in CN 12 infarction. After treating the patient with warfarin for three months there was complete recanalization of right vertebral artery. Early diagnosis of dissection may reduce subarachnoid hemorrhage.

REVIEW OF LITERATURE

Till date there is only one study done under guidance of Dr. Ashok Panagariya (HOD dept. of neurology SMS medical college Jaipur) Which has largest number of cases (12) with isolated 12th nerve palsy. Aetiologies are:

1. Tubercular meningitis- Short duration of symptoms (30 days), resolution after ATT was observed.
2. Idiopathic- Short duration of symptoms (15 to 30 days), resolution of symptoms after oral steroids.
3. Carcinoma tongue- short duration of symptoms (30 days) expired after 6 months

4. Chordoma- symptoms progressing and lasting for few months (3) expired in 2 months
5. Sarcoidosis- symptoms for few months (5 months) resolution of symptoms after oral steroids
6. Ectatic vessel in hypoglossal canal- symptoms progressing over a period of 2 years.
7. Atlantooccipital dislocation- progressive symptoms over 6 months ever after surgery conditions stable with persistence of signs and symptoms.
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