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A Case Report on Stroke in Young

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Abstract

Stroke is often considered as a disease of elder population , being uncommon in young has a large socio-economic impact to the families by leaving the victim disable before their most productive years. Of all stroke cases, 10% are seen in patients younger than 45 years of age. The risk factors for stroke in young adult patients can be traditional vascular risk factors but rare risk factors are not uncommon. Stroke in young patients; though considered to have a better prognosis than stroke in the older population; can cause significant limitations in quality of life of these patients, with them being at higher risk of cardiovascular events as well as higher death rate. Such patients also have a higher five year risk of recurrent stroke especially if associated with age> 40 years, type 1 DM, history of TIA, Hypertension . Here we present a case report of an Acute left basal ganglia ischemic stroke in a young previously diagnosed hypertensive male, non compliant to anti-hypertensive medications.

Keywords: Ischemic Stroke; Stroke in Young; Thrombolysis; Vascular Risk Factor; TEE-Trans Oesophageal Echocardiography.

Introduction

Stroke is a major cause of disability and death worldwide. Young stroke applies to an age group of >18 to < 45 years (excluding pediatric stroke <18 years). Acute stroke is defined as sudden onset of focal neurological deficits, presumably of vascular origin, lasting more than 24 hours or leading to death Cerebral infarction in younger age groups may be due to a variety of local, systematic diseases. Full evaluation of the young patient will reveal an underlying cause, many of which are treatable. The management of young stroke requires a modified approach, prompt and focussed investigations and treatment, as well as advice on prognosis.

Case Report

A 28 year old male presented to ER with complaints of sudden onset right upper limb weakness associated with deviation of mouth to left side 10 minutes prior to presentation. The patient gave no history of slurring of speech, seizure, headache, vomiting, LOC, trauma, chest pain, fever. Past medical history revealed Hypertension (non compliant to anti-hypertensive medications).

On Examination

Working diagnosis – CVA with Right UMN facial paralysis , right hemiparesis, dysarthria–Young stroke (? Cause).

Pt was thrombolysed in ED with Inj Actilyse 50 mg total dose, 5 mg as bolus and 45 mg as infusion over 60 min with continued BP, GCS monitoring. Post thrombolysis NCCT HEAD was normal and admitted in ICU .

Further investigations revealed:

CBC and KFT were Normal

Homocysteine- 17.5umol/L

Cholesterol- 193 mg/dL

Triglyceride-333 mg/dL

HDL- 40.6 mg/dL,

LDL- 128 mg/dL

TSH- 0.2uIL/ml

APTT- 34.3, PT- 11, INR- 0.93

ECHO- borderline concentric LVH, no LV RWA, LVEF 60%, valves normal, no clot, veg, PE. TRACE TR RVSP- 24 mmHg.

Carotid doppler- normal study.

Patient showed gradual neurological recovery; managed conservatively with T. Aspirin, Enoxaparin, Furosemide and was discharged after 4 days on anti-platelet and anti-hypertensive medication, planned for TEE, Holter, ANA and vasculitis panel.

On Examination

Primary Survey	Secondary Survey
AIRWAY- Patent	HEENT- no pallor, icterus, cyanosis; tongue moist
BREATHING-	CHEST- B/L air entry equal, no addd sounds
Respiration(RR/min)- 18	CVS- S1 S2 +, no murmur
Laboured- No	ABD- soft, non tender, BS +
SpO2- 100% on room air	EXT- warm, no pedal edema, no dilated veins, all peripheral pulses palpable
CIRCULATION-	CNS- Conscious, oriented to time,place and person
Pulse- 98/min	Power- RT U/L- 0/5
Blood pressure- 150/90 mmHg	RT L/L- 4/5
Peripheral pulses – Y	LT U/L and L/L – 5/5
Temperature- 98.4 F	hand grip- Rt absent, Lt 100%
DISABILITY-	Plantars- Right extensor, left flexor
GCS- 15/15	Speech- Mild dysarthria +, no aphasia
Pupils- B/L 2mm normal reacting to light	Cranial nerves- right UMN facial paralysis+,
GRBS- 126 mg/dl	Deviation of mouth to left side present
	Tone- decreased in right UL and LL,
	normal in left UL and LL.
	Sensory – normal
	No cerebellar signs
	No signs of meningeal irritation
	No slurring of speech
	NIHSS 7
	Weight- 60kg

Discussion

Presentation of young patients with stroke is similar to stroke in the elderly but mis/delayed diagnosis of stroke in young is a common occurrence because it is still considered a disease of the elderly and the patient may not have any comorbidities leading to low suspicion for stroke.

Apart from the typical presentation, atypical presentations of stroke such as Neuropsychiatric symptoms (delirium, depressed level of consciousness), abnormal movements (chorea, hemiballismus, dystonia, hemifacial spasm etc), cranial neuropathies (acute vestibular syndrome, acute hearing loss, Horner syndrome, third/seventh nerve palsies) and Isolated symptoms (isolated dysarthria, isolated facial paresis, isolated dystonia, isolated visual loss, monoparesis, isolated headache) need to be considered while making a diagnosis of stroke.

Treatment includes Urgent Thrombolysis (if indicated), Aspirin and treatment of underlying cause (if known).

Prognosis in young stroke depends upon the underlying cause and extent of initial neurological damage. The greater collateral reserve in the young adult brain limits the initial size of infarction and there is greater scope for functional recovery than in the elderly. Initial mortality is 2-7% and risk of recurrent stroke is 1-3% per annum.

Patients with premature atherosclerosis as a cause of stroke have a higher chance of future morbidity. Physiotherapy, occupational therapy, speech therapy and psychiatric interventions are especially important in young stroke cases.

Conclusion

Recent advances in imaging modalities, hematology, immunology and genetics have enabled early and accurate dignosis of stroke in patients. We report on this patient because ischaemic stroke in a 28 year old patient and his subsequent neurological recovery over the course of hospitalisation is a classic case of progression and recovery from the disease. A complete but quick neurological examination is essential in the ED. Distinguishing acute stroke from other disorders that mimic stroke (hypo/ hyperglycemia, hyponatremia, seizures, migraines, multiple sclerosis, intracranial infection/tumours etc.) is vital in the ED to ensure prompt and apropriate management. Early and accurate diagnosis enable us to intervene early in the progression of the disease which significantly affects the patients ultimate outcome.

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