**STROKE IN ELDERLY – ‘TIME IS BRAIN’**

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Mr M aged 65, came to the hospital with a history of weakness of the left sided upper and lower extremities with a left facial weakness of one day duration. During my examination, I asked him why you waited for 24 hours to come to the hospital? He thought for a while and said, Doctor, I didn’t think it was a serious issue, merely a simple generalized weakness.

**Is stroke an emergency?** Why should we reach the hospital as soon as possible in case of a stroke? we will learn more about this in this chapter.

Stroke is sudden weakness of limbs and face mainly one side with or without speech difficulty caused by clogging of blood vessels leading to the reduced blood supply to the brain, If the artery remains blocked for more than a few minutes, and enough blood can't get through, the brain can become damaged. The majority of strokes are ischemic.

Stroke is mainly of 2 types **a) Ischemia** - that is clogging or closure of blood vessels (85%) **b) Hemorrhage** - that is leak or rupture of a blood vessel inside the brain or over the brain surface. (15%)

**Stroke overview:**

In INDIA, approximately 1.8 Million strokes happen each year, most of which are caused by a blockage in a blood vessel. Stroke is one of the leading causes of disability and death. However, early treatment and preventive measures can reduce the brain damage that occurs because of stroke. The damage from a stroke may be temporary or permanent. A person's long-term outcome depends upon how much of the brain is damaged, how quickly treatment begins, and several other factors.

**Who are at the risk of developing stroke?**

Those who have long-standing high Blood Pressure, uncontrolled diabetes, high blood cholesterol, chronic smoking, alcohol consumption, sedentary lifestyle and obesity. Associated cardiac problems like change in heart rhythm like Atrial fibrillation, valve replacement and clot in the left ventricle of the heart.

**How do you SPOT a stroke?**

BEFAST:

B - Sudden loss of **Balance** or giddiness

E – Sudden loss of vision in one or both **Eyes**

F – Is there any **Face** drooping

A – Is there any difficulty in lifting **Arms** above shoulders

S – Is there any slurring of **Speech**

T – **Time** to act and call an ambulance.

**What are the symptoms of a stroke?**

Aphasia - not able to speak, not able to understand spoken or written language, not able to name simple things like pen or pencil and not able to read or write. Left brain stroke causes aphasia and weakness of right side – right hemiparesis and right visual field defect. Right brain stroke causes left hemiparesis and left visual field defect. Brainstem stroke or hemorrhage presents with altered sensorium, swallowing difficulty, double vision, giddiness or imbalance while walking.

**How do you confirm stroke and what tests are required?**

To confirm whether it is ischemia - reduced blood supply due to blockage in a blood vessel or hemorrhage due to rupture of the blood vessel, we need to do a CT brain scan or MRI brain. MRI scan can detect stroke earlier than a CT scan. Angiogram of brain vessels and Carotid-Vertebral Doppler to look for any block or narrowing of large vessels of neck supplying the brain or intra cranial vessels narrowing.

ECG/2D-ECHO to look for heart rhythm, valve diseases or clot in the left ventricle (chamber of the heart). Monitoring sugar levels, lipid profile, kidney functions and blood pressure charting at least twice a day.

**What are the Treatment options for ischaemic stroke?**

1. Reperfusion therapy: a. Thrombolysis (clot lysing/breaking drug) b. Mechanical Thrombectomy (**If presents within 4.5 hours for thrombolysis, 6hours for thrombectomy in appropriately selected patients**).

2. Antiplatelets (aspirin, clopidogrel), Statins and anticoagulants. (To prevent another stroke).

3. Control of hypertension

4. Management of diabetes mellitus

5. For large vessel narrowing (carotid stenosis) – Carotid stenting or Carotid endarterectomy (CEA).

6. For large stroke with altered consciousness and brain swelling requires the removal of a skull bone flap (Decompression craniectomy).

**What are the treatment options for brain hemorrhage?**

a. Intensive care management for patients with altered sensorium

b. Adequate control of blood pressure

c. Anti-oedema drugs to reduce brain swelling

d. Surgical drainage is beneficial in some patients with large superficial hemorrhages

**General care for patients with stroke**:

a. Propped up position to avoid aspiration pneumonia

b. Regular change in position to prevent pressure sore

c. Care of bowel and bladder

d. Adequate nutrition if the patient is on tube feeding

e. Speech therapy

f. Physical rehabilitation – from day one is important for early functional recovery

g. Research has identified that exercise has both positive physical and psychosocial effects for post-stroke patients. Aerobic exercise the main form of cardiac rehabilitation may play an important role to improve aerobic fitness, cognitive abilities, walking speed and endurance, balance, quality of life, mobility and other health outcomes among stroke patients

**What are the steps to prevent stroke?**

a. Adequate control of risk factors like hypertension and diabetes by taking medicines regularly

b. Identification and treatment of associated cardiac conditions like irregular heart rhythm

c. Another way to prevent strokes is to have surgery or a procedure to reopen clogged arteries in the neck. This type of treatment is appropriate for only a small group of people

d. Cessation of smoking and cut down on alcohol intake

e. Regular exercise mainly aerobic exercises, thirty minutes a day for five days a week

f. Eat a diet rich in fruits, vegetables, and low-fat dairy products, and low in meats, sweets and refined grains such as wheat bread or white rice

g. Eat less salt

**What is a TIA? (Transient Ischaemic Attack/Stroke)**

A TIA is like a stroke, but it does not damage the brain. TIAs happen when an artery in the brain gets clogged and then reopens on its own. This can happen if a blood clot forms and then moves away or dissolves. Even though TIAs do not cause lasting symptoms, they are serious. If you have a TIA, you are at risk of having a stroke. Do not ignore the symptoms of a stroke even if they go away!

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