Lacunar syndromes are stroke syndromes associated with chronic hypertension involving infarction in territories of deep penetrating arteries. The five classical lacunar syndromes are:
1. Pure motor stroke/hemiparesis (33-50%)
2. Ataxic hemiparesis (2nd most common)
3. Dysarthria/clumsy hand
4. Pure sensory stroke
5. Mixed sensorimotor stroke

The cause of lacunar infarction is occlusion of a single small penetrating artery. This occlusion may be due to microatheroma and lipohyalinosis, which are associated with hypertension, smoking, and diabetes, or to microembolism from the heart or carotid arteries.

Symptoms may occur suddenly or may evolve in either a fluctuating (e.g., the capsular warning syndrome) or a progressive manner.

1. Pure motor stroke/hemiparesis
   - weakness and cluminess on one side of the body
   - usually affects the leg more than the arm
   - the onset of symptoms is often over hours or days.
2. Ataxic hemiparesis
   - weakness and clumsiness on one side of the body
   - the onset of symptoms is often over hours or days.
3. Dysarthria/clumsy hand
   - main symptoms are dysarthria and clumsiness of hand which is most prominent when patient is writing
4. Pure sensory stroke
   - main symptoms are tingling, numbness or occasionally pain on one side of the body
5. Mixed sensorimotor stroke
   - hemiparesis of hemiplegia with sensory abnormality on the same side

Consider TPA
- contraindications include
  1. Beyond 3 h of stroke onset (or when last well)
  2. CT scan evidence of recent major infarction
  3. Concomitant anticoagulation (with prolonged aPTT or PT greater than 15 s or INR greater than 1.7)
  4. Platelet count <100,000/mm³
  5. Documented hypersensitivity;
  6. another stroke or major head injury in last 3 mo;
  7. major surgery in last 14 d;
  8. pretreatment systolic BP >185 mm Hg or diastolic BP >110 mm Hg
  9. rapidly improving signs
  10. mild deficit
  11. prior intracerebral hemorrhage
  12. seizure at onset of stroke
  13. gastrointestinal or urinary bleeding in last 21 d
  14. recent myocardial infarction

Commence on aspirin & statin
Treat risk factors

CT scan is appropriate initial investigation; may require MRI:
1. Pure motor stroke/hemiparesis
   - the lacune is usually in the posterior limb of the internal capsule or the basis pontis
2. Ataxic hemiparesis & dysarthria/clumsy hand
   - The most frequent sites of infarction are the posterior limb of the internal capsule, basis pontis, and corona radiata.
3. Pure sensory stroke
   - lesion is usually in the thalamus
4. Mixed sensorimotor stroke
   - The infarct is usually in the thalamus and adjacent posterior internal capsule (seemingly, in both the carotid and vertebrobasilar territories).
other investigations include:
- immediate blood glucose to rule out hypoglycaemia
- coags & FBC

Commence on aspirin & statin
Treat risk factors