Association Between HbA1c Levels and Stroke Subtypes: A Cross-Sectional Study

Aim - to explore the relationship between HbA1c levels, glycaemic status and different stroke subtypes.

Methods

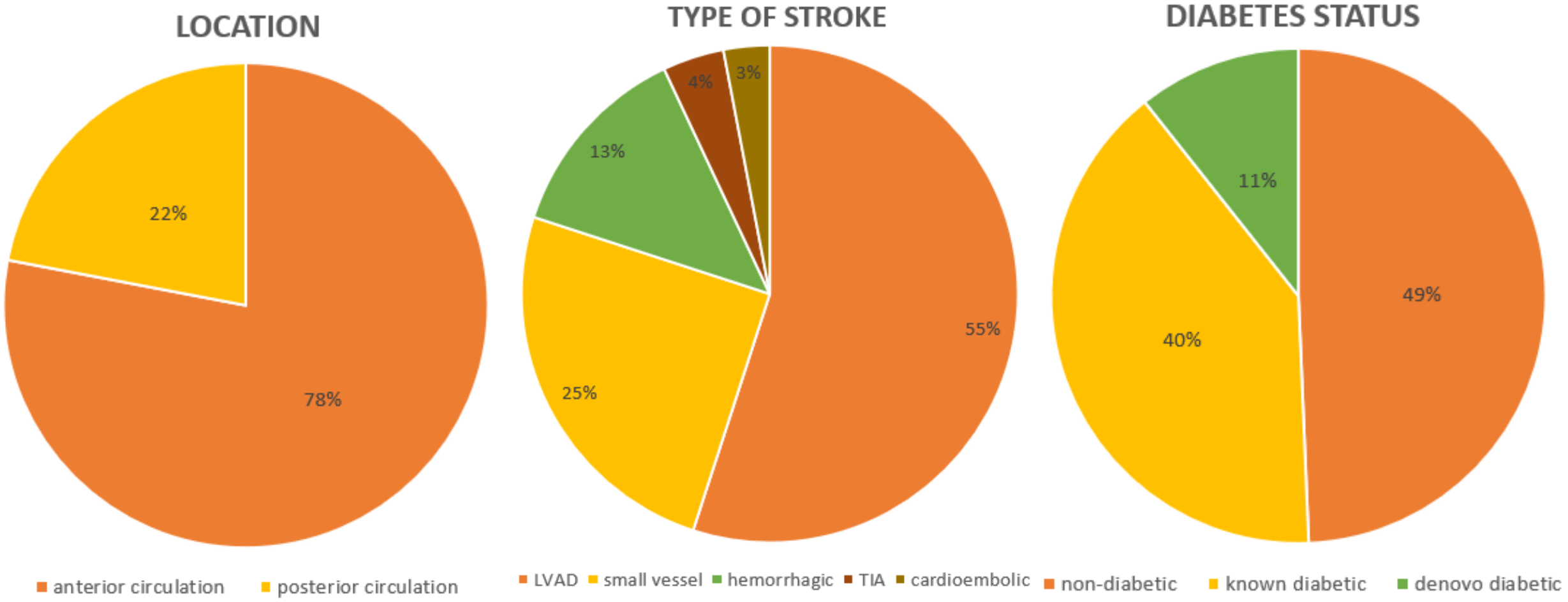
- **Selection:** Adults (>18 yrs) with radiologically confirmed stroke; exclusions – incomplete data/refusal
- **Data:** History, clinical exam, stroke subtype classification, lab and imaging findings
- **Analysis:** Descriptive statistics; simple comparisons using Chi-square/t-test

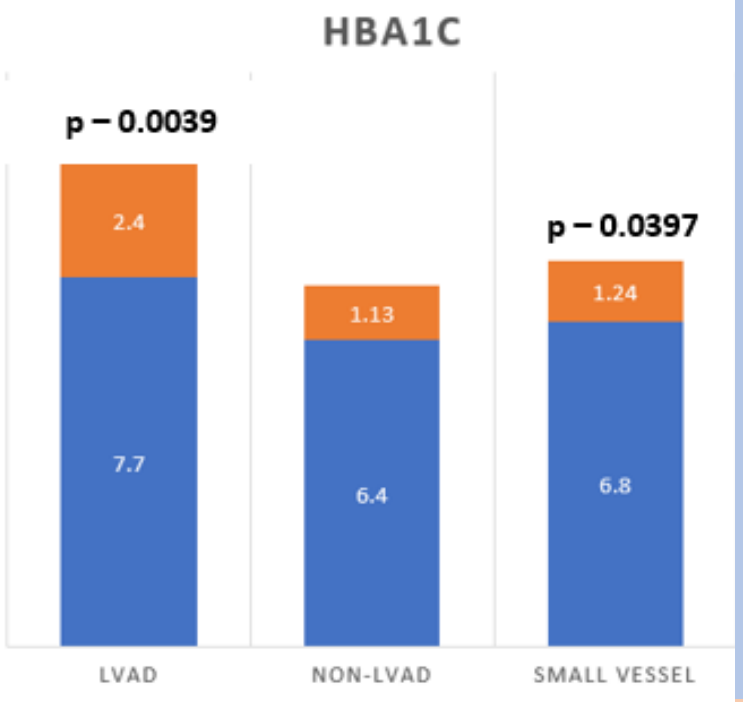
Materials

- Cross-sectional study at Osmania General Hospital, Hyderabad
- Period: March – May 2025
- Sample: 100 consecutive inpatients with acute stroke
- Tools:
  - Case record forms,
  - laboratory tests (sugars, HbA1c, lipid profile, electrolytes, creatinine),
  - Calculated parameters – estimated average glucose, glycaemic gap
  - 2D echo, neck vessel Doppler

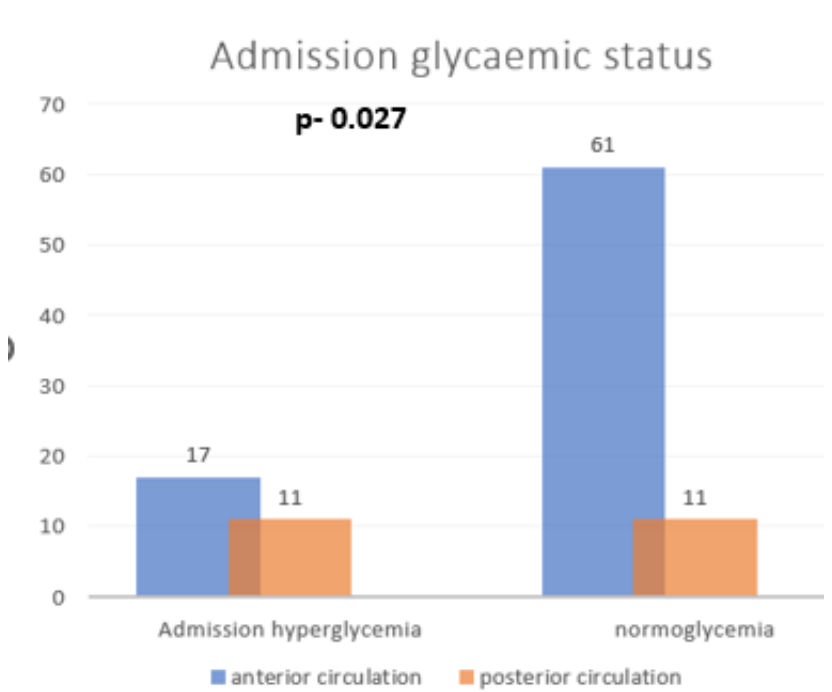
Results

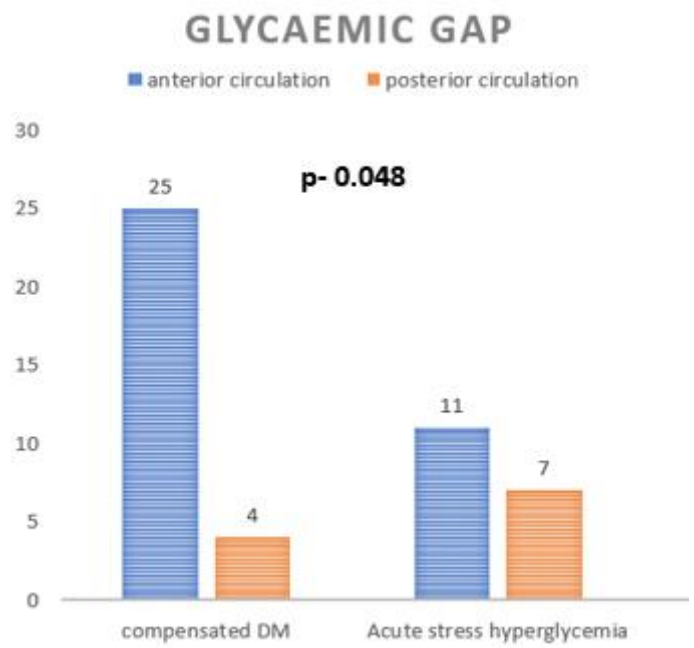
- Total patients: **100**
- **Stroke subtypes:** Ischemic (large vessel, small vessel, cardioembolic, TIA) & Hemorrhagic
- **Risk factors:** Diabetes, hypertension, dyslipidemia common
- **Mean HbA1c:** 7.6 ± 1.97
- **Mean RBS:** 170 ± 72 mg/dl
- Dyslipidemia (atherogenic & mixed patterns)





Among the stroke subtypes, LVAD group had higher HBA1C (7.7+/-2.4) than non-LVAD group (p-0.0039).
Admission hyperglycemia was observed more commonly among posterior circulation subgroup





Glycaemic gap (measured as admission RBS – estimated average glucose) was also significantly higher in posterior circulation (p-0.048)

Conclusions:

Diabetes, both known and newly diagnosed, plays a major role in stroke risk, particularly large vessel disease.

Patients with posterior circulation strokes exhibit higher admission glycaemic levels, indicating that acute hyperglycaemia may influence stroke location and severity.