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# Biological Risk factors of recurrent ischaemic strokes

## – Is there a significant difference compared with first ischaemic strokes?

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### OBJECTIVE

To determine significant differences between the biological risk factors amongst recurrent and first ischaemic strokes.

### METHODOLOGY

A prospective study recruiting ischaemic stroke patients presenting with a stroke with a previous history of stroke or CT evidence of silent infarctions as study subjects and those with their first ever stroke and no evidence of previous infarcts as controls, admitted to 8 medical wards at Teaching Hospital Jaffna from January 2015 to September 2015(8 months).

Data on biological risk factors were obtained from patients' records and by interviewing the patient or relatives for data missing from records. Risk factors were expressed as odds ratios and a post hoc binary regression analysis was done on significant risk factors to assess confounders. Data was analysed using SPSS vs20.

### RESULTS

- Total of 374 stroke patients including 277 (74.1%) first stroke and 97(25.9%) recurrent strokes.
- 194(51.9%) of the patients were males. A gender based sub-analysis of risk factors for recurrent strokes was done.

**Table 1 : Risk Factors for Recurrent Stroke For Males**

Risk Factors	Odds Ratio with 95% Confidence intervals
Hypertension	2.059 (1.036–4.013)
Diabetes mellitus	1.544 (0.798–2.987)
Ischaemic Heart Disease	2.250 (0.887–5.706)
Dyslipidaemia	2.650 (1.171-6.002)
Alcohol	1.947 (1.012-3.748)
Smoking	2.291 (1.142–4.596)

**Table 2 : Risk Factors for Recurrent Stroke For Females**

Risk Factors	Odds Ratio with 95% Confidence intervals
Family history	2.682 (1.041-6.910)
Hypertension	1.291 (0.645-2.583)
Ischaemic Heart Disease	2.386 (1.012-5.623)
Dyslipidaemia	2.180 (1.005-4.729)

- Binary logistic regression analysis were done on the entire model.
- Based on that only dyslipidaemia (p=0.009) was significant.

### CONCLUSION

Dyslipidemia is a significant risk factor for recurrent strokes.

Gender is a significant confounding factor. Confounding effects of diabetes, hypertension and ischaemic heart disease cannot be excluded as optimal control and severity were not assessed. A larger study population will reduce the confounder effect.