



**DETERMINANTS OF INFARCTION  
PATTERNS IN POSTERIOR CEREBRAL  
CIRCULATION**

*Thesis*

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***In Neurology and Psychiatry***

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فى طب المخ والاعصاب والطب النفسى

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# List of Abbreviations

| <b>Abb.</b>        | <b>Full term</b>  |
|--------------------|---|
| <i>ACOM</i> .....  | <i>Anterior communicating artery</i>                            |
| <i>AF</i> .....    | <i>Atrial fibrillation</i>                                      |
| <i>AICA</i> .....  | <i>Anterior inferior cerebellar artery</i>                      |
| <i>ANOVA</i> ..... | <i>A one-way analysis of variance</i>                           |
| <i>ASD</i> .....   | <i>Atrial septal defect</i>                                     |
| <i>BA</i> .....    | <i>Basilar artery</i>   |
| <i>BABO</i> .....  | <i>Basilar artery atheromatous branch<br/>occlusive disease</i> |
| <i>BAO</i> .....   | <i>Basilar artery occlusion</i>                                 |
| <i>BMI</i> .....   | <i>Body mass index</i>  |
| <i>BPD</i> .....   | <i>Blood-pressure differential</i>                              |
| <i>CADs</i> .....  | <i>Cervical artery dissections</i>                              |
| <i>CBC</i> .....   | <i>Complete blood picture</i>                                   |
| <i>CBF</i> .....   | <i>Cerebral blood flow</i>                                      |
| <i>CBV</i> .....   | <i>Cerebral blood volume</i>                                    |
| <i>CE</i> .....    | <i>Cardio embolic</i>   |
| <i>CI</i> .....    | <i>Confidence interval</i>                                      |
| <i>CKD</i> .....   | <i>Chronic Kidney Disease</i>                                   |
| <i>CT</i> .....    | <i>Computed Tomography</i>                                      |
| <i>CTA</i> .....   | <i>Computed Tomography angiography</i>                          |
| <i>DWI</i> .....   | <i>Diffusion weighted imaging</i>                               |
| <i>ECG</i> .....   | <i>Electrocardiogram</i>  |
| <i>ECVA</i> .....  | <i>Extra cranial vertebral artery</i>                           |
| <i>ER</i> .....    | <i>Emergency room</i>   |
| <i>ESR</i> .....   | <i>Erythrocyte sedimentation rate</i>                           |
| <i>fPCA</i> .....  | <i>Fetal origin PCA</i>   |
| <i>HDL</i> .....   | <i>High density lipoproteins</i>                                |

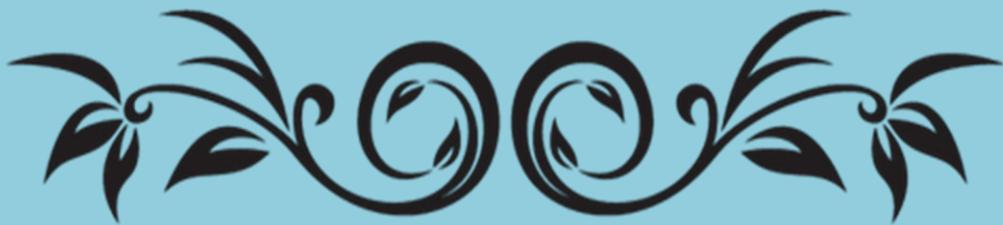
## List of Abbreviations cont...

| <b>Abb.</b>           | <b>Full term</b>   |
|-----------------------|--|
| <i>HIV</i> .....      | <i>human immunodeficiency virus infection</i>                                  |
| <i>HR</i> .....       | <i>Hazard ratio</i>  |
| <i>ICA</i> .....      | <i>Internal carotid artery</i>   |
| <i>ICH</i> .....      | <i>Intra cerebral hemorrhage</i>   |
| <i>ICVA</i> .....     | <i>Intracranial vertebral artery</i>   |
| <i>IL-2</i> .....     | <i>Interleukin 2</i>   |
| <i>LAA</i> .....      | <i>Large-artery atherosclerosis</i>  |
| <i>LDL</i> .....      | <i>Low-density lipoprotein</i>   |
| <i>LSD</i> .....      | <i>Least Significant Difference</i>  |
| <i>MELAS</i> .....    | <i>Mitochondrial encephalopathy, lactic acidosis, and stroke like episodes</i> |
| <i>MI</i> .....       | <i>Myocardial infarction</i>   |
| <i>MRA</i> .....      | <i>Magnetic resonance angiography</i>  |
| <i>MRI</i> .....      | <i>Magnetic resonance imaging</i>  |
| <i>mRS</i> .....      | <i>Modified Rankin Scale</i>   |
| <i>NEMC-PCR</i> ..... | <i>New England Medical Center posterior circulation registry</i>               |
| <i>NIHSS</i> .....    | <i>National Institutes of Health Stroke Scale</i>                              |
| <i>OCPs</i> .....     | <i>Oral contraceptives pills</i>   |
| <i>OSA</i> .....      | <i>Obstructive sleep apnea</i>   |
| <i>P- value</i> ..... | <i>Probability value</i>   |
| <i>PAD</i> .....      | <i>Peripheral arterial disease</i>   |
| <i>PC</i> .....       | <i>Posterior circulation</i>   |
| <i>PCA</i> .....      | <i>Posterior cerebral artery</i>   |

## List of Abbreviations cont...

| Abb.                       | Full term   |
|----------------------------|---|
| <i>PCOM</i> .....          | <i>Posterior communicating artery</i>                 |
| <i>PICA</i> .....          | <i>Posterior inferior cerebellar artery</i>           |
| <i>PRES</i> .....          | <i>Posterior reversible encephalopathy syndrome</i>   |
| <i>RBS</i> .....           | <i>Random blood sugar</i>                             |
| <i>RR</i> .....            | <i>Relative risk</i>                                  |
| <i>RVBI</i> .....          | <i>Rotational vertebrobasilar insufficiency</i>       |
| <i>SAH</i> .....           | <i>Subarachnoid hemorrhage</i>                        |
| <i>SCA</i> .....           | <i>Superior cerebellar artery</i>                     |
| <i>SD</i> .....            | <i>Standard deviation</i>                             |
| <i>SPSS</i> .....          | <i>Statistical package for social sciences</i>        |
| <i>sVAD</i> .....          | <i>Spontaneous dissection of the vertebral artery</i> |
| <i>SVD</i> .....           | <i>Small vessel disease</i>                           |
| <i>SVO</i> .....           | <i>Small vessel occlusion</i>                         |
| <i>TAG</i> .....           | <i>Triacylglyceride</i>                               |
| <i>TIA</i> .....           | <i>Transient ischemic attack</i>                      |
| <i>TNF</i> .....           | <i>Tumor necrosis factor</i>                          |
| <i>TOAST</i> .....         | <i>Trial of Org 10172 in Acute Stroke management</i>  |
| <i>VA</i> .....            | <i>Vertebral artery</i>                               |
| <i>VAH</i> .....           | <i>Vertebral artery hypoplasia</i>                    |
| <i>VB</i> .....            | <i>Vertebrobasilar</i>                                |
| <i>VBD</i> .....           | <i>Vertebrobasilar dolichoectasia</i>                 |
| <i>VBI</i> .....           | <i>Vertebrobasilar Insufficiency</i>                  |
| <i>VLDL</i> .....          | <i>Vitamin K antagonists</i>                          |
| <i>VKA</i> .....           | <i>Very low density lipoprotein</i>                   |
| <i>X<sup>2</sup></i> ..... | <i>Chi-square</i>                                     |

# Introduction



## INTRODUCTION

Ischemic Stroke is defined as focal or global neurological dysfunction lasting longer than twenty-four hours or leading to death which is caused by vascular insult either stricture or occlusion of specific vascular territory (*Onwuekwe et al.,2012*).

Stroke is the second leading reason for death for people higher than the age of sixty years. Stroke is the most common cause of adult disability and the second most important cause of dementia worldwide (*Chung et al., 2016*).

Approximately sixteen million first ever strokes occur in world, causing a total of 5.7 million deaths per year (*Strong et al., 2007*) . About 85% of all strokes deaths are registered in low-and middle-income countries, that additionally account for 87% of total losses because of stroke concerning disability-adjusted life years, calculated worldwide in 72 million per year (*Lopez et al., 2006*).

Stroke accounts for 6.4% of all deaths in Egypt and therefore ranks third after heart diseases and liver diseases (*Abd-Allah et al., 2014*) . The incidence rate for all strokes in Egypt is 250 per 100,000 population annually in Egypt. It ranged between 22.7 and 180 per 100,000 population each year for first ever and recurrent stroke, and between 29.8 and 250 per 100,000 population each year for first ever stroke. The prevalence rate in Egypt for 1st ever and recurrent stroke ranged between 508 and 777 per 100,000