

# Comparison of the Effect of Norepinephrine and Dopamine on Cerebral Haemodynamics in Severely Brain Injured Patients Using Transcranial Doppler

### Thesis

Submitted for Partial Fulfillment of MD Degree In Intensive Care

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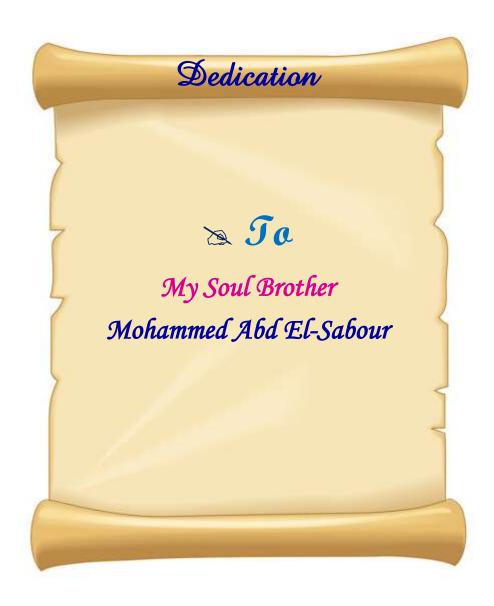
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Hend Abdelsabour



# List of Abbreviations Meaning

### Abb.

ABG : Arterial blood gas

ACA : Anterior cerebral artery

**AComA** : Anterior communicating arteries

AMP : Adenosine monophosphate

: Arterial pressure AP

ATP : Adenosine triphosphate

AU : Arbitrary unit

AVDO<sub>2</sub> : Arteriovenous difference in oxygen

BBB : Blood brain barrier

BP : Blood pressure

Ca<sup>2+</sup> : Calcium

: Cyclic adenosine monophosphate cAMP

CBF : Cerebral blood flow

CBV : Cerebral blood volume

CI : Cardiac index

CMRO<sub>2</sub> : Cerebral metabolic rate of oxygen

CO : Cardiac output : Carbon dioxide  $CO_2$ : Carbon dioxide CO<sub>2</sub>

CPP : Cerebral perfusion pressure

CSF : Cerebrospinal fluid

CT : Computed tomogram

CTA : Computerized tomography angiography

CVP : Central venous pressure

: Cerebrovascular resistance CVR

DA : Dopamine

### List of Abbreviations (Cont.) Meaning Abb. : Oxygen delivery $DO_2$ DR : Dopaminergic receptor eCPP : Estimating cerebral perfusion pressure EDV : End-diastolic velocity FV : Flow velocity FVd : Diastole flow velocity : Maximum FV **FVmax** FVs : Systole flow velocity GCS : Glasgow coma scale HR : Heart rate ICA : Internal carotid artery ICH : Intracranial hemorrhage ICP : Intracranial pressure ICU : Intensive care unit IL : Interleukin IV : Intravenous Κ : Potassium LDF : Laser Doppler flowmetry : Length of stay LOS : Left ventricle stroke work index LVSWI MAP : Mean arterial pressure : Methylene blue MB MCA : Middle cerebral artery MHz : Mega Hertz MRI : Magnetic resonance Imaging : Mean velocity MV Na : Sodium

: Norepinephrine

NE

### List of Abbreviations (Cont.) Meaning Abb. OA : Ophthalmic artery OEF : Oxygen extraction fraction : Arterial carbon dioxide tension PaCO<sub>2</sub> PaO<sub>2</sub> : Arterial oxygen tension PbtO<sub>2</sub> : Brain oxygen tension **PCA** : Posterior cerebral artery **PComA** : Posterior communicating arteries PCWP : Pulmonary capillary wedge pressure рHi : The gastric intramucosal PH Ы : Pulsatility index **PVR** : pulmonary vascular resistance : Right ventricle stroke work index RVSWI SAH : Subarachnoid hemorrhage SaO<sub>2</sub> : Arterial oxygen saturation SjO<sub>2</sub> : Jugular bulb oxygen saturation SV : Peak systolic velocity SVI : Stroke volume index SVR : Systemic vascular resistance TBI : Traumatic brain injury TCD : Transcranial doppler TD : Thermal diffusion UCP 2 : Mitochondrial uncoupling protein UO : Urine output V1 : Vasopressin type 1 VA : Vertebral arteries : Oxygen uptake VO<sub>2</sub> vWF : von willebrand factor

: Zero-flow pressure

ZFP

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# Introduction



# Aim of the Study



# Review of Literature