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٤٠٩١

COMPUTED TOMOGRAPHY ABNORMALITIES IN-PATIENTS WITH DIFFERENT DEGREES OF HEAD INJURY GUIDED BY GLASGOW COMA SCALE.

A study Proposal submitted for the partial fulfillment
Of M.Sc degree

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ABBREVIATIONS

Computed Tomography	CT
Glasgow Coma Scale	GCS
Cerebro-Spinal Fluid	CSI
Cranial Nerve	CN
Housfield Unit	HU
Extra-Dural Hematoma	EDH
Sub-Dural Hematoma	SDH
Intra-Ventricular Hemorrhage	IVH
Intra-Cerebral Hemorrhage	ICH
Subarachnoid hemorrhage	SAH
Extra-Cranial Hematoma	ECH
Arterio-venous Malformation	AVM
Arterio-Venous Fistula	AVF
Adenosine Tri-Phosphate	ATP

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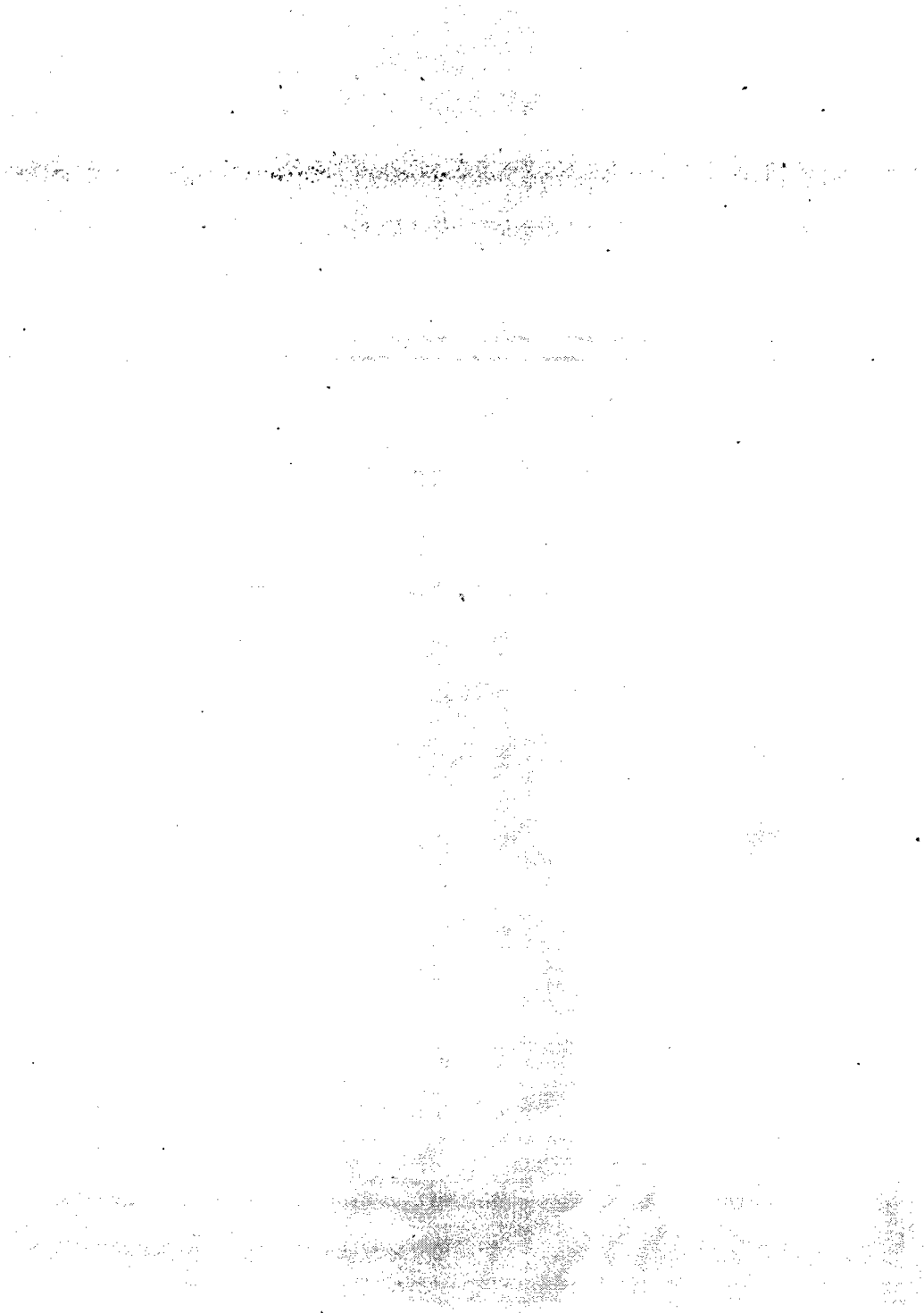
DEDICATED TO MY FAMILY

Introduction



INTRODUCTION

Cranial trauma is a major problem in accidents and emergency departments, it considered the most common cause of death in the 1 to 40 years age group; after cardiocerebrovascular disease and cancer, it is probably the third cause of death in adult life [1].

The neuroradiology in trauma has undergone dramatic changes in the past decade since the advent of computed tomography (CT) as a diagnostic imaging tool.

A head-injured patient must be considered as a total entity: the basic clinical problems, criteria of evaluation and classification of neurological deficits and coma, should be award in order to select the best diagnostic protocol.

Elaborate neurological testing to appropriately localize a space-occupying lesion such as an intracerebral hemorrhage is no longer of paramount importance as CT precisely defines the nature and location of the lesion, thus facilitating rapid implementation of treatment. The ability of CT scans to rapidly demonstrate a surgically correctable lesion, fractures, and subarachnoid hemorrhage make it the modality of choice in the evaluation of acute head injury [2].

Teasdale and Jannett [3], have stated that the evaluation of the cause and site of dysfunction should be based on the pattern of changes in five physiological functions: state of consciousness; respiratory pattern; pupillary size and reaction; eye movements and ocular reflexes motor abilities.

The level of consciousness must be first established. The most common and rapid grading system is the Glasgow Coma Scale (GCS). The GCS provides information concerning three aspects of the patient's responsiveness: **1)** eye opening; **2)** best verbal response; **3)** best motor response.

Patients with head injuries may be divided for purposes of triage and management, into three broad categories, based primarily on the level of consciousness and clinical status, at the time of presentation in the Emergency room into [1]:

(1) Minor Head Injury (GCS 13-15), no depression of the level of consciousness and no focal neurological signs. They may have headache, nausea or vomiting, and may have post-traumatic amnesia and / or loss of consciousness less than 20 minutes.

(2) Moderate Head Injury (GCS 9 -12), who are lethargic or present neurological deficits, but still able to follow simple commands.

(3) Severe Head Injury (GCS 3-8), who are comatose and unable to follow even a simple command.

This series correlate between the clinical variables (guided by GCS) and CT findings, to select definite criteria for cranial CT scan among head injured patients.

Aim of the work

PRIMARY OBJECTIVES

1. To determine the frequency of abnormal cranial CT scans in head injured patients.
2. To relate the findings of cranial CT scans to the different degrees of head injury using Glasgow Coma Scale scores.

SECONDARY OBJECTIVE

To relates the findings of cranial CT scans to the clinical variables and fate of the head-injured patients.