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Faculty of Medicine

Forensic Medicine and

Clinical Toxicology Dept.

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A MEDICOLEGAL STUDY ON TRAUMATIC

CASES REFERRED TO FORENSIC

MEDICINE AND CLINICAL TOXICOLOGY

CENTER

IN MENOUFIYA UNEVERISTY HOSPTAL

Thesis for fullfilment of

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By

Mofrih Mohamed Hegazy

(M.B.B.ch)

SUPERVISORS

Prof. Dr

Prof. Dr.

Samy M. Badawi

Prof.& head of Depart. of Medicine and Clinical

Toxicology

Eaculty of Medicine Menoufiya University Sahar M. Kamel

Prof. of Forensic

Medicine and Clinical

Toxicology
Faculty of Medicine
Alex. University

1997

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INTRODUCTION

Historical Review

The history of trauma paralles the history of the evolution of man with his aggressive instincts, creative ability and endless ambition to conquer, the environment without regard to the price he must pay to achieve hisgoals.⁽¹⁾

The first written accounts of medical experience are found in the Egyptian papyri. The Edwin Smith papyrus, is one of the oldest, written in about 1600 BC. (2, 3)

In the papyrus, a type of classification was adopted where more superficial injuries are described first, followed by the progressively more severe ones. The material dealt with in this text consists of forty eight surgical cases, most of which are injuries. (4)

In ancient persia, it is said to have been a classification of injuries of seven groups ranging from simple ecchymosis to mortal wounds. (5)

Hippocrates (fifth to fourth century B. C) was the first to point out the importance of taking a thorough history of injuries including the nature of the weapon used. He described the different types of wounds, their complications and the manner of treatment in order to limit these complications.⁽⁴⁾

Historians have reported that Antistuis, a physician in Rome, examined the body of Julius Caesar and reached the opinion that, of the twenty three wounds Caesar sustained, the only mortal wound was one in the chest. (6)

1

The oldest known low cod, that of Hammurabi king of Babylon, dating from about 2200 BC, includes legalization on the practice of medicine, the rights and duties of medical men are dealt with concisely it dealt clearly with medical malpractice and it set out for the first time the idea of the criminal and civil liability of medical man, his responsibility for causing death or injury to his patient is clearly stipulated. (5)

In the past most of wounded patients died as a result of their wound, but later on with the onset of wars all over the world, treatment of injuries improved greatly.⁽⁷⁾

Introduction

Trauma is one of the major problems facing medicine today. (8) It is the leading cause of mortality and disability during the 1st four decades of life and is the third most common cause of death over all. (9)

For each trauma death there are more than ten other persons that are seriously injured, and some of these are permanently disabled⁽⁹⁾ in the United kingdom, it is the chief cause of death below the age of forty five years.⁽¹⁾

In United States, injury is the leading cause of death for persons between the age of one and forty four years^(10,11) and more than four million trauma cases are hospitalized annually.⁽⁹⁾

In Egypt, injuries are a significant source of morbidity and mortality, they are the fifth leading cause of death and the leading cause of hospitalization and account for at least one quarter of all patients visits. (12)

Definitions of trauma:

The term trauma, as generally understood, means an injury (for instance, a wound) inflicted by a force upon a living cells. (1)

The term injury is derived from the Latin term in-juris meaning "not right". (13)

An injury is the physical damage to a person that occurs as a result of exposure to physical or chemical agents at rates greater than the body can tolerate. (13)

Mechanical trauma of adequate force, whatever the nature of the agent, usually leads to a wound. (1)

So a wound is a dissolution of continuity of any of the tissue of the body caused by injury. (14)

Injuries in developing world:

Injury trends in developing countries raise questions about the relationship between development and injury. (15) An epidemiologic transition occurs as countries move from a disease pattern dominated by infectious diseases to one characterized by non infectious diseases such as heart disease, cancer and injury. (16) This transition increases the relative importance of injuries compared to infectious disease for instance, In Mexico, the proportion of deaths from infectious diseases decreased from 43% to 17% during the 25 year period, 1955-1980. (17) During this same period, the proportion of deaths resulting from unintentional injury increased from 4% to 11% in Nigeria, the proportion of deaths from road traffic crashes, compares to deaths due to 16 common infectious diseases increased in ten years from 38.9% to 60.2%. (17)

In addition to a shift in the relative importance of injuries demographic changes, technological changes and social change affect the epidemiology of injuries and influence the absolute importance of injury changing demographics caused by improved child survival, increase the proportion of older persons in population. (17)

Injuries among these persons, such as occupational injuries and falls, become more important. Countries like Thailand, Egypt and

Indonesia are experiencing increased numbers of deaths due to occupational injuries especially those related to manufacturing technology, such as increased use of the automobile, manufacturing and electricity, can often cause increase in absolute numbers and rates of injuries in Nigeria, the number of traffic fatalities more than doubled in seven years. During a ten year period, the rate of motor vehicle fatalities per 10,000 motor vehicles increased 127%. (17)

Finally social changes resulting in increased urbanization, changing roles of family members, and increased alcohol use can potentially increase the absolute numbers of injures by increasing the number of risk factors for injury. In Shanghai country, China, injuries are the leading cause of death for people between the ages of I and 44 years. (18)

Injury deaths are usually among the top five causes of death among all age groups, when compared with other causes of death, in Egypt, in 1987, injuries were the fifth leading cause of death accounting for 4.1 of all deaths. In most countries of the Americas, unintentional injuries including motor vehicle injuries, are the leading cause of years of potential life lost, fatality rates for unintentional injuries vary considerably among countries and among age groups. (18)

In the United states peak injury rates are seen in young adult males, largely as a result of motor vehicle crashes, however in developing countries, this peak is not seen because of the relative scarcity of the motor vehicle. Injury mortality rates show increasing rates of injury deaths in older age groups, with rates generally lowest in 5-14 years old. (19)

Injury rates in older age groups tend to increase for both males and females in all countries. Across all age groups, males tend to have higher rates of unintentional injuries than females. (19) Based on limited data from Latin American countries and ancedotal reports in Egypt, Nigeria, Zimbabwe and Zambia, rates for homicides and suicides are probably at least as high as those in the United states they occur primarily in young adults, ages 15-24. (19) Rates of intentional injuries vary among racial groups, in a study of mortality among south African adolescents during a two- years period, assault was to be the most common cause of death in blacks and coloreds, compared to road traffic deaths for whites. (20) In two reports describing a series of injuries treated at a Nigerian hospital, intentional injuries caused by stab or gun shot wounds comprised from 18% to 29% of injuries seen in each series. (21, 22)

Inter group violence in Africa is also a significant cause of injury mortality and morbidity. An 1 million persons died in Uganda during the last two decades. In times of war, civilians seem to be most at risk of being killed or injured between 80% and 90% of all war-related fatalities are among civilians. (23) War also directly affects health status by diverting funds needed for health to defense. (24) South Africa, shot gun pellets used by police to control civil disturbances accounted for 5% of chest injuries seen in a case series of 178 children during 5.5 year period. (22)