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RESEARCH ARTICLE

Causes of mortality in burns

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Abstract

Back ground:- Burn is a common emergency in clinical practice and remain a major medical problem**.** **Objectives:-** To diagnose the causes of death in patient who are burned with different type of burn. **Method:-** Two hundred and ninety three dead Patients were studied to diagnose the causes of death. **Results**:- Our study showed that 198 dead patients were females (67.57%) and 95dead patients were males (32.43%) and female to male ratio were 2.1:1. The age ranged from 1to 90 years, with mean age of the patients was 29 years. Also our study showed that the most common cause of death were sepsis 57% followed by multi organ failure 28%, respiratory failure 8%, brain death 4% and shock 3%. **Conclusion:-** Our study showed that the most common cause of death were sepsis followed by multi organ failure, respiratory failure, brain death and shock.

INTRODUCTION

A burn is a type of injury to flesh or skin caused by heat, electricity, chemicals, friction, or radiation.[1] Burn injury range from the trivial to sever burns that pose a threat to life,involve a long hospital stay, and carry the risk of permanent disfigurement or impaired function .[2] The causes of burn may be due to:- 1-Thermal injury which are:- a-Scald-spillage of hot liquids, b-Flame burns, c-Flash burns due to exposher of natural gas,alcohol,combustible liquids, d-contact burns-contact with hot metals/objects/material, 2-Elictrical injury, 3-Chemical burns(acid/alkali), 4-Cold injury-frost bite, 5-Ionising radiation, 6-Sun burns.[3] Burns may be classified into:- 1-Partial thickness burn which are:- a- Erythema :a superficial burn with erythema due to capillary dilatation and with or without areas of blistering produce by exudation of plasma beneath coagulated epidermis,the underlying germinal layer is intact and complet healing takes place within a few days, b- Superficial partial thickness :burn extends down through the epidermis to involve the germinal layer but the dermal appendages such as sweat gland and hair follicles remain largely preserved, c-Deep partial thickness : burn extends to the germinal layer and destroys a significant proportion of hair follicles ,sebaceous glands and dermis, 2-Full thickness burns which there is completely destroy the skin.[4] Burns cause damage in a number of different ways, but by far the most common organ affected is the skin,however, burns can also damage the airway and lungs, with life-threatening consequences,airway injuries occur when the face and neck are burned, respiratory system injuries usually occur if a person is trapped in a burning vehicle, house, car or aero plane and is forced to inhale the hot and poisonous gases.[5] The characteristics of a burn depend upon its depth. Superficial burns cause pain lasting two or three days, followed by peeling of the skin over the next few days.[6] Individuals suffering from more severe burns may indicate discomfort or complain of feeling pressure rather than pain. Full-thickness burns may be entirely insensitive to light touch or puncture.[6] While superficial burns are

typically red in color, severe burns may be pink, white or black.[6] Burns around the mouth or singed hair inside the nose may indicate that burns to the airways have occurred, but these findings are not definitive.[7] More worrisome signs include: shortness of breath, hoarseness, and stridor or wheezing.[7] Itchiness is common during the healing process, occurring in up to 90% of adults and nearly all children.[8] Numbness or tingling may persist for a prolonged period of time after an electrical injury.[9] Burns may also produce emotional and psychological distress.[10]

PATIENTS & METHODS

This is a prospective study of 293 death patients with Burn wounds were studied at the medical-legal Institute of Forensic Medicine Division of dead from January 2014 to January 2015 . Prior to death, all patients were admitted to the Hospitals and all were treated in an identical manner. Standard treatment included early excision of the burn wound, systemic and local antibiotic therapy, and continuous enteral and parenteral feeding .

Results

Our study showed that 198 dead patients were females (67.57%) and 95dead patients were males (32.43%) and female to male ratio were 2.1:1 as shown in table one.The age ranged from 1 to 90 years,as shown in table two.with mean age of the patients was 29 years. Also our study showed that the most common cause of death were sepsis 167 (57%) followed by multi organ failure 82 (28%),respiratory failure 23 (8%),brain death 12 (4%) and shock 9 (3%), as shown in table three.

Table one:number of female and male dead patient

	month	gender	number	total
1	Jan.	Male	10	42
		Female	32	
2	Feb.	Male	8	39
		Female	31	
3	Mar.	Male	12	40
		Female	28	
4	Apr.	Male	14	31
		Female	17	
5	May	Male	12	20
		Female	8	
6	Jun.	Male	3	17
		Female	14	
7	Jul.	Male	7	18
		Female	11	
8	Aug.	Male	5	14
		Female	9	
9	Sep.	Male	8	11
		Female	3	
10	Oct.	Male	2	13
		Female	11	
11	Nov.	Male	4	20
		Female	16	
12	Dec.	Male	10	28
		Female	18	
		TOTAL		293

Table two:age group of female and male dead patient

	Age group	Male	female
1	1-5 Y	13	13
2	6-10Y	9	12
3	11-15Y	7	20
4	16-20Y	8	28
5	21-25Y	9	18
6	**26-30Y**	**14**	**35**
7	31-35Y	7	12
8	36-40Y	8	10
9	41-45Y	7	9
10	46-50Y	3	9
11	51-55Y	1	8
12	56-60Y	1	9
13	61-65Y	2	8
14	66-70Y	1	6
15	71-75Y	1	3
16	76-80Y	0	2
17	81-85Y	0	1
18	86-90Y	1	2
		95	**198**

Table three:causes of death

	The cause of death	Ratio
1	sepsis	57%
2	Muti organ failure	28%
3	Respiratory failure	8%
4	Brain death	4%
5	shock	3%

Discussion:-

The incidence of burn injury varies greatly between cultures, In the UK (population 65 million), each year around 175 000 people visit accident and emergency (A&E) departments suffering burns, of whom about 13 000 need to be admitted, About 1000 have severe burns requiring fluid resuscitation, and half of the victims are under 16 years of age, The majority of burns in children are scalds caused by accidents with kettles, pans, hot drinks and bath water,Among adolescent patients, the burns are usually caused by young males experimenting with matches and flammable liquids, In adults, scalds are not uncommon but are less frequent than flame burns, Most electrical and chemical injuries occur in adults, Cold and radiation are very rare causes of burns,Associated conditions in adults, such as mental disease (attempted suicide or assault), epilepsy and alcohol or drug abuse, are underlying factors in as many as 80% of patients with burns admitted to hospital in some populations.[5] Our study showed that 198dead patients were females (67.57%) and 95 dead patients were males (32.43%) and female to male ratio were 2.1:1 as shown in table one.The age ranged from 1 to 90 years,as shown in table two.with mean age of the patients was 29 years.Also our study showed that the most common cause of death were sepsis 57% followed by multi organ failure 28%,respiratory failure 8%,brain death 4% and shock 3%,as shown in table three. Legislation, health promotion and appliance design have reduced the incidence of burns, with regulations regarding flame retardant clothes and furniture, the promotion of smoke alarms, the design of cookers and gas fires, the almost universal use of cordless kettles and the education of parents to keep their hot water thermostat to 60C all playing their part.[5] A vast spectrum of injuries can arise from a burning accident,from the trivial to some of the most dramatic injuries that humans survive, The management of the major burn injury represents a significant challenge to every member of the burns team – burns doctors, surgeons, anaesthetists, ward and theatre nurses, physiotherapists, occupational therapists, dietitians, bacteriologists, physicians, psychiatrists, psychologists and the many ancillary staff whose cleaning and

supply services are vital to the successful running of a burns unit, A large burn injury will have a significant effect on the patient's family and friends and the patient's future,The importance of multidisciplinary care needs to be stressed for the adequate and effective care of the burn patient.[5]

Recommendation:-

A significant proportion of burns can be prevented by:

1- Implementing good health and safety regulations,
2- Educating the public,
3- Introducing of effective legislation.[5]

References

1- Herndon D , Total burns care (4th ed), Prevention of Burn Injuries, 2012,Edinburgh; Saunders, Pp:46.
2- James D.Watson,principles and practice of surgery,6th edition,2012,chrchill livingstone Elsevier,pp:303.
3- Sriram Bhat M,SRBS Manual of surgery,4th edition,2013,Jaypee brother medical publishers (p)LTD,PP:130.
4- Harold Ellis,Sir Roy Calne,Christover Watson,General surgery,lecture notes,12th edition,2010,Wiley-Blackwell,pp:41.
5- Michael Tyler and Sudip Ghosh,Bailey&Loves,short practice of surgery,26th edition,2013,CRC Press,Taylor&Francis Group,pp:385.
6- Granger Joyce ,Pediatric Emergency Medicine Practice, **6** (1),Jan 2009, "An Evidence-Based Approach to Pediatric Burns".
7- Brunicardi Charles ,Schwartz's principles of surgery ,9th edition, 2010, New York, McGraw-Hill, Medical Pub Division ,Chapter 8.
8- Goutos I, Dziewulski P, Richardson PM ,Pruritus in burns,review article,Journal of burn care & research , official publication of the American Burn Association **30** (2) ,Mar–Apr 2009,PP: 221–8.
9- Marx John ,Rosen's emergency medicin, concepts and clinical practice ,7th edition,2010, Philadelphia, Mosby/Elsevier, Chapter 140, Electrical and Lightning Injuries.
10- Peck M.D, journal of the International Society for Burn Injuries **37** (7) , Epidemiology of burns throughout the world, Part I: Distribution and risk factors, November 2011, pp:1087–100.