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/ Program Book /

APBA ASIA PACIFIC BURN ASSOCIATION

ISBI International Society for Burn Injuries

陽光基金會

Content

April 3 (Monday)

Room 101D

Free Paper 11

15:40-17:20

Epidemiology & Research (2)

Moderator: Selina Ahmed Ena (Bangladesh) / Szu-Hsien Wu (Taiwan)

15:40-15:48	F11-01	The Risk Factors Affect the Incidence of Severe Burn *Meng Liu (China)*
15:48-15:56	F11-02	Epidemiological Study of Hospitalized Burn Patients in Tertiary Care Hospital in Nepal *Sanjib Tripathee (Nepal)*
15:56-16:04	F11-03	Outcomes of the Victims of the Waterpark Burn Disaster in Taiwan One-Year After the Accident - Focusing on Post-Acute Care and Social Return *Chi-Hung Lin (Taiwan)*
16:04-16:12	F11-04	Evaluation of Burn Care Knowledge Discrepancies Among Emergency Physicians in West Nusa Tenggara, Indonesia: Preparation for ISBI Practice Guidelines Implementation *Badariyatud Dini (Indonesia)*
16:12-16:20	F11-05	Industrial (Garment factories) Fire; Bangladesh Perspectives *Md. Imrul Hasan Warsi (Bangladesh)*
16:20-16:28	F11-06	Epidemiology and Burns Referral in Secondary Burn Unit of Soebandi Hospital, Jember Regency, East Java – Indonesia *Ulfa Elfiah (Indonesia)*
16:28-16:36	F11-07	Update Data of Epidemiology Study of Childhood Burn Foundation for Admitted Burn Patients in Taiwan-- from Year 2004 to 2015 *Kwang-Yi Tung (Taiwan)*
16:36-16:44	F11-08	Use of Induced Endothelial Progenitor Cell from Adipose-Derived Stem Cell to Promote Angiogenesis of Ischemic Skin Flap *Yuan-Yu Hsueh (Taiwan)*
16:44-16:52	F11-09	Nanocrystalline Silver Dressing: Does Chloride in Physiological Fluid Inactivate its Anti-Microbial Activity? *Joanneke Beekman (The Netherlands)*
16:52-17:00	F11-10	The Effects of Cross-Linking a Collagen-Elastin Scaffold on Wound Contraction and Scaffold Degradation *Joanneke Beekman (The Netherlands)*
17:00-17:08	F11-11	High Mortality of Concomitant Major Burns and Trauma Patients: What Do We Know? *Nadia Sim (Singapore)*
17:08-17:16	F11-12	YOU DISSSOLVED MY BEAUTY SLOWLY ..SLOLWY : A study on Acid Attack Survivors in India *Nyamat Bindra (India)*

Epidemiology and Burns Referral in Secondary Burn Unit of Soebandi Hospital, Jember Regency, East Java - Indonesia

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Background:

Burn injury is one of the health burdens on rural area such as in Jember regency of East Java. Various factors contribute to high incidence of burn injury included crowded living area, lack knowledge of potential risks of burn and no access to safe energy sources. It is important to conduct a study of the epidemiological characteristics and associated risks factors such as the social, cultural and economic factors, which contribute to burn causation. The epidemiology of burn injuries on a rural area is important to evaluate the needs of burn-injured patients. The epidemiology of burns is varying from one area to another. The result of epidemiology studied in a particular area can compare with other areas and possible improvements in treatment.[1]The aims of this study is to describe epidemiology, referral patterns and outcome of patients hospitalized at Soebandi General hospital as central hospital in rural area of Jember regency, which provided secondary burn care service.

Method

A retrospective data review was conducted for all new admissions of burns patients during the period of January 2014 to October 2016. Data was collected, compiled and analyzed with excel programme according to the patient characteristics included age, gender, cause of burn, size of burn, admission`s time after injury, time to surgical treatment, length of hospital stay, complications and mortality rate and presented in table and diagram.

Result

Basic demographics

A total of 70 patients were reviewed. There were 15 (21,4%) children with age range was 1 to 15 years and 55 (78,6%) adults patients with range of age 16-70 years old. The sex ratio of female to male was 1: 2,5 (see figure 1 below).

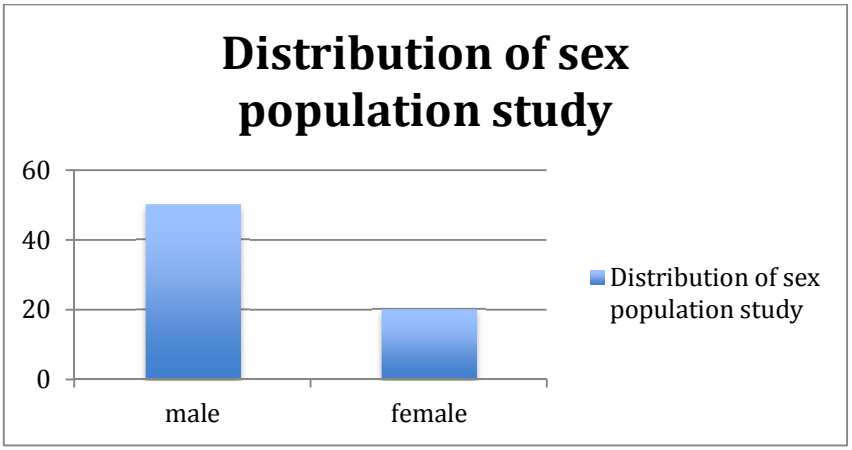

Fig 1. Distribution of sex population study

Cause of burn and Mean total burned surface area (TBSA)

The most etiology of burn in overall study population was flame followed by scald contact hot metal and electric injury. See table 1 below.

Table 1. Etiologies of burn

No.	Etiologies of burn	Precentage
1.	flame	55%
2.	scald	27%
3.	Contact hot metal	9%
4.	Electric injury	9%

Cause of burn in children were 53% scald (8 patients), 40%(6 patients) flame and 7% (1 patient) contact hot metal (see figure 2). The average age of scald was 2 years old and of pediatric flame burn was 6 years old. The most mechanisms of burn in adult was flame (25 patient) and cause the least was contact hot metal (see figure 3).

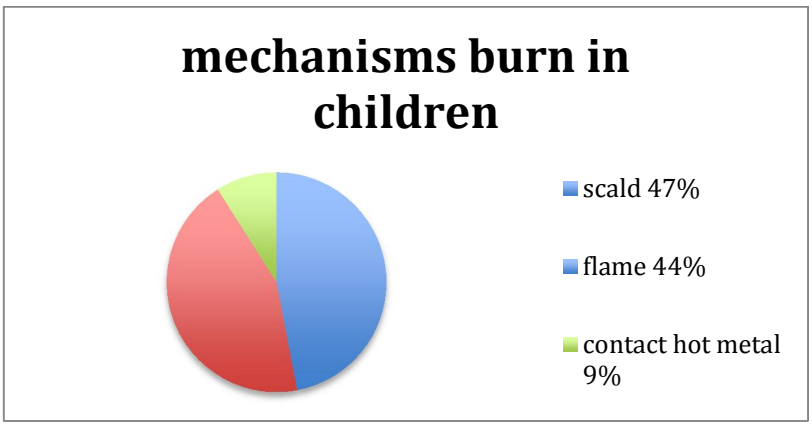

Fig 2. Mechanisms of burn in children

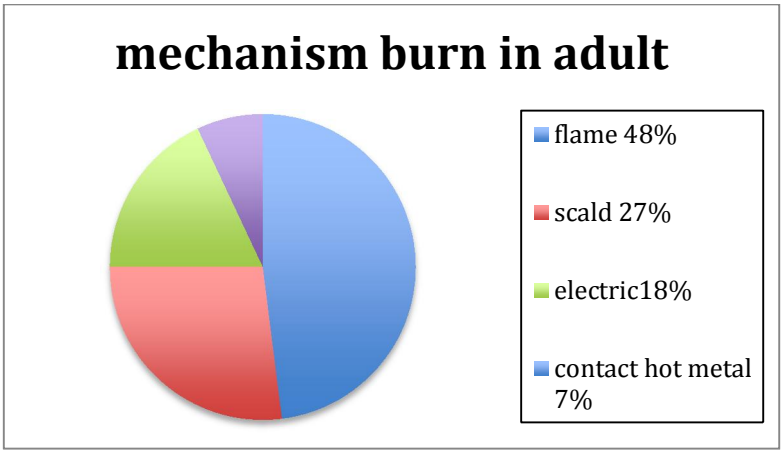

Fig 3. Mechanisms burn in adult

The mean burns size for children were 25% TBSA and 40% TBSA for adults (see table 2 and 3).

Table 2.Distribution of extent burn in children

No.	Extent of burn	Children patients
1.	<10%	4
2.	10-25%	6
3	>25%	5

Table 3.Distribution of extent burn in adult

No.	Extent of burn	Adult Patient
1.	< 25%	20
2.	25-55%	30
3	>55%	5

Referral Patern

Patients were referred from hospital type C, hospital type B hospital and primary health care on jember and surrounding area. Admission`s time of 55 patients (78,6%) were 4 -12 hour after injury and 15 patients (21,4%) were referred between 1 day to 1 week post-injury.

Outcome

Skin grafting was done in 33%(5 patients) of pediatric burn patients at day 7-10 after admission. Skin grafting in adult burn patients were performed in 50% patients at day10-14 after admission. Length of stay of survive patients were varies greatly between 5-84 days for children and 7- 45 days for adults. Overall mortality was 10% (2 children patients and 8 adult patients), whereas complications of severe sepsis and ARDS were identified as the cause of death (see table 3).

Table 3. Outcome of burn patient

Outcome				
	Treatment	Length of stay	Mortality rate	Discharge from hospital
Children	Skin grafting - 5 patient(33%) - 7-10 day after injury	5-84 days	2 Patients (13,3%)	- 3 patients (20%) without permission - 10 patients (66,7%) ambulatory
Adult	-Skin grafting: 33patient(33%) 7-10 day after injury -Local flap: 4 patient(7,3%) 7-14 day after injury	7- 45 days	8 Patients(14,5%)	- 4 patients (20%) without permission - 43 patients (66,7%) ambulatory

Discussion

This study shows a predominan sex distribution of burn in males over female. This results is similar with various studies such as study epidemiology in Mediterrania region by Othman and Kendrck (2010) ,also study epidemiology in Ghana by Agbenorku et all (2016). This may be due to males more active than female naturally. In this study, the most common cause of burn in overall study population and adult was flame. Similar finding have been reported in dr.Soetomo general hospital Surabaya by Hidayat et all (2011).For children, this study reveals scald as the most etiology of burn . This may related to the activities of children who are still in domestic sphere and negligence of the parents might happened. (Lawrence, 1996; Klein, 2007). They explore their environment in dosmestic such as to pull on tablecloth and to grasp hot liquid due to their lower cognitive ability compered adult.Another common cause of scald in children is hot bath burn.

TBSA has been reported as a risk factor mortality and important indicator for management strategy of burn patient. The more extensive burns then the higher mortality rate. Mortality rate of burn patient in Indonesia is majority high.Based on WHO statistic burn injuries are a major problem in the low-incomeand middle-income countries. The WHO estimates indicate that globally there were more than 7.1 million fire-related unintentional burns (X01-X09) in 2004 giving an overall incidence rate of 110 per 100,000 per year. Indonesia is one of developing that having SES (socioeconomic status) problem such as poverty, lack of education and unemployment. This problem is associated with burn risk. [3]

Referral patern correlated to geographis. Jember is one of a rural area as a hospital type B or leve III public health service with secondary burn care since 2014. This study shows that referral time and Geographic access to burn centers is relatively slow. The best strategies for specific regions is needed ie : 1)Geographic distribution of burn centers, 2)Optimum time required for access to burn center, 3) rational distribution of burn centers relative to population dense and 4) quality of care.[6]

Outcome of this study is proximate indicators of clinical effectiveness rather than true outcome measures. There are many factors that influence of outcome variables for example length of stay is influenced by geography or co-morbidity.

Spesific tool needs to asses true outcome measures such as the International Classification of Functioning (ICF).[1]

Conclusion

Patients referred to our hospital were severe burns either in children or in adults. Management of burn in resource-limited setting as seen in our hospital will reflecting the epidemiologic data and outcome of severe burn management in developed country

Reference

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