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Impregnated Vaseline Gauze as an Alternative for Treatment Superficial-Mid Dermal Paediatric Burn During the Covid-19 Pandemic in Dr. Sardjito General Hospital Indonesia

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Abstract

Background: During the Covid-19 pandemic, burn care services are essential non-elective services that cannot be delayed caused burns are an emergency and urgent condition required immediate treatment especially for pediatric. The treatment was difficult, healing process of the wound needs long time and high cost, with the limited types safe of dressings for pediatric availability in our hospital. In order to facilitated wound healing we developed impregnated vaselin gauze as an alternative for the treatment of superficial-mid dermal burns in pediatric. **Purpose**: The purpose of this study was to describe the benefit of impregnated vaselin gauze on wound healing based on length of stay of the patient. **Method**: This is a descriptive study. Wound was treated with closed method based on moist using gauze impregnated vaselin, covered with thick gauze and bandaging to keep it moist. Wound are evaluated during wound care with assessing epithelial tissue and wound reduction every 4-5 days until wound healing occurs. The sample of this study are superficial-mid dermal burn injury in pediatric, population who hospitalized in Burn Unit Dr.Sardjito Hospital during pandemic period April – December 2020. **Results**: There were 11 respondents, age between 1 month – 16 years old (mean age 3 years old), extend of burn area are between 8 – 41% BSA (mean percentage 23% BSA), and the length of stay for wound healing was around 6 – 28 days (Mean of length of stay 18 days). **Conclusion**: Impregnated vaselin -gauze dressing are able to facilitate the re-epithelization process in wound healing superficial-mid dermal burn injury.

Keywords: burn; gauze; pediatric; vaselin

Abstrak

Latar Belakang : Pada masa pandemi Covid-19, pelayanan luka bakar merupakan pelayanan Kesehatan yang sangat penting karena luka bakar merupakan keadaan darurat dan mendesak yang memerlukan penanganan segera terutama pada anak. Perawatan luka bakar adalah hal yang sulit, proses penyembuhan luka membutuhkan waktu lama dan biaya tinggi, dan terbatasnya jenis balutan yang aman untuk pasien anak di Rumah Sakit. Untuk memfasilitasi penyembuhan luka, kami mengembangkan kassa yang diimpregnasi vaselin sebagai alternatif untuk pengobatan luka bakar dermal superfisial-tengah pada anak. **Tujuan:** Tujuan dari penelitian ini adalah untuk mendeskripsikan manfaat kasa yang diimpregnasi dengan vaselin

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terhadap penyembuhan luka berdasarkan lama rawat pasien. **Metode:** Penelitian ini merupakan penelitian deskriptif. Luka dirawat dengan metode tertutup dengan konsep lembab menggunakan kasa yang dioles dengan vaselin , ditutup dengan kasa tebal dan dibalut agar tetap lembab. Luka dievaluasi selama perawatan luka dengan menilai jaringan epitel dan penutupan luka setiap 4-5 hari sampai penyembuhan luka terjadi. Sampel penelitian ini adalah luka bakar dermal superfisial-mid pada anak yang dirawat inap di Unit Luka Bakar RS Dr.Sardjito selama masa pandemi April – Desember 2020. **Hasil:** Responden berjumlah 11 orang, berusia antara 1 bulan – 16 tahun (usia rata-rata 3 tahun), luas luka bakar antara 8 – 41% BSA (rata-rata persentase 23% BSA), dan lama perawatan untuk penyembuhan luka sekitar 6 – 28 hari (Rata-rata lama perawatan 18 hari). **Kesimpulan**: Balutan vaseline-gauze yang diimpregnasi vaselin mampu memfasilitasi proses re-epitelisasi pada luka bakar superficial-mid.

Keywords: anak; kasa; luka bakar; vaselin

INTRODUCTION

During the Covid-19 pandemic, burn care services are essential non-elective services that cannot be delayed caused burns are an emergency and urgent condition required immediate treatment especially for pediatric, delayed burn care services can lead to continued infection which results in increased morbidity and mortality. The treatment was difficult, healing process of the wound needs a long time and high cost. The most common pediatric burn injury is a superficial due to scald (ANZBA 2013).Treatment of these burns is to controlling infection and promoting healing with good aesthetic outcomes, and a wide variety of wound care products are currently available (Nherera et al, 2017). Since the covid-19 pandemic, referral of pediatric burn patient to Sardjito Hospital have increased by 10% were kitchen accidents. Pediatric burn are still a serious problem, with the limitation types of dressings for pediatric available in our hospital during pandemic, to accelerate wound healing we developed impregnated vaselin gauze moist dressing as an alternative for the treatment of superficial – mid dermal burn in pediatric.

Vaselin gauze is a gauze impregnated with vaselinum album/vaselin putih containing the semi solid hydrocarbons from mineral oil as topical ointment (Depkes 2014). In Sardjito Hospital, usually that ointment single products should be used of wound dermatologist to keep moist and comfortable. This can be as often as two times per day to minimize crusting and facilited crust removal. During pandemic covid-19 that designed to prevent adherence of the dressing to the wound. In situ valesin gauze dressing act as a maintain wound environment to keep moist. Treatment of wounds in a moist environments will accelerates the epithelialization and facilitate the healing process (Liu Wei, 2015). The purpose of this study

was to identify the effect healing of impregnated vaselin gauze dressing on wound healing based on length of stay of the patient.

METHOD

This a case study, was conducted during the period April – December 2020. The sample of this study are superficial, mid dermal burn injury in pediatric population who hospitalized in Burn Unit Dr. Sardjito General Hospital.

The treatment of wound with closed method using vaselin gauze which is a gauze impregnated vaselinum album/vaselin putih apply on the wound after cleaned the wound with saline, continued to be covered with 5layer gauzes and fixed with elastic bandage to keep it moist wound environment. Wound are evaluated and treatment every 4 - 5 days until wound healing occurs and the patients were discharged when wound healed up with complete epithelialized tissue and residual of burn area <4% BSA.

RESULT AND DISCUSSION

During the study period of 9 months from April – December 2020, the admitted pediatric burn scald were 11 respondent, 5(45.4%) patient were male and 6 (54.6%) patients were female. The lowest age of the patient of this study was 1 months and the highest age was 16 years old (Mean 3 years old). The age distribution is shown Figure-1.

Mayority of the caused of pediatric burn, scald (54%),fire (18%) and gas explosive (28%) (Figure.2), and the depth of burn superficial (53%), mid dermal (47%) (Figure.3), with extend of burn area are between 8– 41% BSA in (Mean 23% BSA) patients were discharged with complete epithelialized tissue and residual of burn area between 0,5- 3% BSA out (average 1,5%BSA), and length of stay was around 6 – 28 days (Mean 18 days) (Figure.4).

Figure 1. Distribution of age and sex

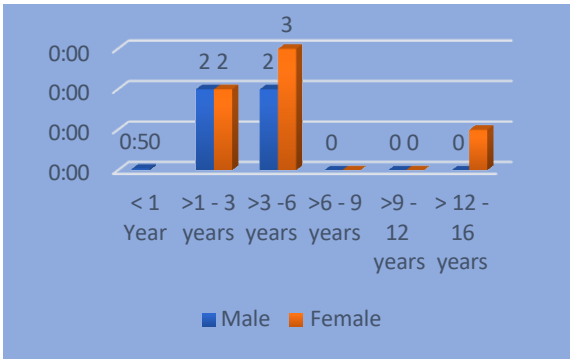


Figure 3: depth of burn

Figure 2. Caused of burn

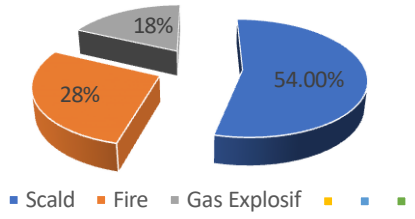
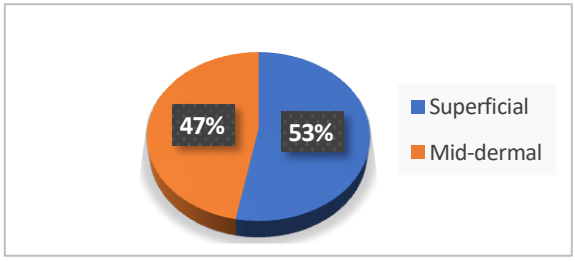
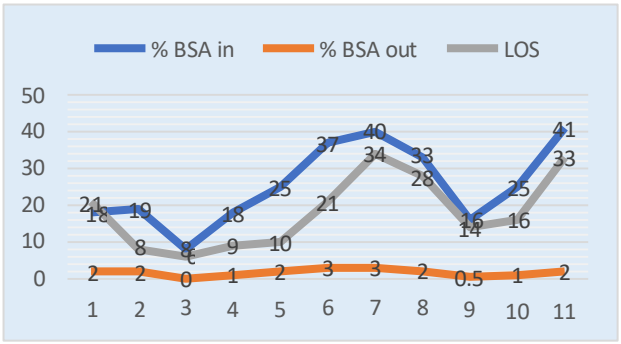


Figure 4: body surface area of burn (BSA) and length of stay (LOS)





After initial resuscitation management to save the burn life, to reduce the possible immediate early morbidity by prompting according to initial planned management protocol of wound treatment.Various techniques are available for wound treatment. Until now, there is no single technique is universally applicable for all types of wound.

Sonal and Deepak J Bhatti (2017), was declare the majority of pediatric burn (77.3%) the toddler age group (1–3 years), 14 were males and 13 were females. Scald was the most common burn injury (54.5%). The reports are similar to our study, which showed on average 3 years old and most common caused of scald.

Elton Mathias and Madhu Srinivas Murthy (2017), most pediatric burn injuries are approximately 20% BSA. The results of this study are not much different from the Elton Mathias and Madhu Srinivas Murthy. Our study the extend of burn area during pandemic-19 increasing to approximately 23% BSA, this is possible due to varied causes of burn.

In this study, we treat all those patients with closed dressing method using impregnated vaselin gauze to keep it moist. It has been revealed that moist condition will provide wound environment which can facilitate autolysis debridement and provide scarless healing. Moist condition also improves cytokines and growth factors release, stimulate angiogenesis and tissue proliferation, and promote migration of keratinocytes. Moist wound dressing has been revealed can hydrate the wound and soften necrotic tissue. Research has shown that wound healed faster in moist environment (moist wound dressing) compared with wound which is treated in dry condition (Wei,2015).

This study is not different from the Gravente study (2010), the duration of healing time of the second degree is at least 5 days, a maximum of 12 days while for the third degree a minimum of 21 days, a maximum of 29 days. This is possible because it is influenced by factors that cause burns. Demling & Way (2001) shallow second-degree burns can heal within 10-14 days. In second degree burns that affect the thickness of the dermis, it requires a longer recovery time of 25-35 days.

In other study, Wei (2015) showed that the use of moist wound dressing in the treatment of burn wounds will shorten the wound healing time and reduce the pain significantly.

This study is similar to the study of Atityeh et al. Hospital stay depends on other factors also like depth of burn, wound infection, Percentage of total burn surface area (% BSA), number of operative procedures. Our results of impregnated vaselin gauze dressing are similar to the study of Gosselin et al (2008). The result also same to the study at same hospital, that showed length of hospital stay was less in moist dressing.

CONCLUSION

In the clinical application of impregnated vaselin gauze, are able to facilitate the re-epithelization process in wound healing superficial – mid dermal burn injury.

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