



Prevalence and associated factors of medical adhesive-related skin injury in cardiac critical care units

Prevalência de lesão de pele relacionada a adesivos médicos e fatores associados em unidades críticas cardiológicas

Prevalencia de lesiones de la piel relacionadas con adhesivos médicos y factores asociados en unidades críticas cardiológicas

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ABSTRACT

Objective: To identify and analyze the point prevalence of medical adhesive-related skin injury in patients hospitalized in cardiac Intensive Care Units and demographic and clinical factors associated to their occurrence. **Method:** Cross-sectional study conducted in Intensive Care Units of two public hospitals, reference centers for cardiology, located in São Paulo city, with 123 patients. Demographic and clinical data from patients' medical records were collected and lesions were identified through skin inspection. The data were analyzed through descriptive statistics and bivariate and multivariate analysis (Classification and Regression Tree). **Results:** Medical adhesive-related skin injury was presented by 28 patients, which amounts to a 22.7% prevalence. Its main causative agent was transparent polyurethane film (46.9%) and the cervical region was the most affected area (25.1%). From the multivariate analysis, the associated factors were found to be the presence of serum urea higher than or equal to 48.5 mg/dL and platelets lower than 193,500 mm³ or platelets higher than or equal to 193,500 mm³ and systolic blood pressure higher than or equal to 122 mmHg. **Conclusion:** This study has contributed to knowledge related to the epidemiology of this type of injury, favoring preventive care planning.

DESCRIPTORS

Wounds and Injuries; Tissue Adhesives; Prevalence; Intensive Care Units; Nursing Care.

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INTRODUCTION

Skin integrity maintenance is an indicator of nursing care quality. In health services, medical adhesive-related skin injuries are meaningful, but undervalued, while potentially impacting outcomes and patients' satisfaction and safety⁽¹⁾.

Medical adhesives are commonly used in health services. These include a variety of products, such as tapes, dressings, electrodes, and stoma barriers, among other adhesives used to fix devices on the skin, monitoring patients in a non-invasive manner, performing secondary wound closure, approximating injury borders, and stimulating the process of skin healing. The most used ones include acrylates, silicones, hydrocolloids, latex, and polyurethanes⁽²⁾. These must be selected according to their quality and skin type and should be applied and removed properly to avoid skin injury⁽³⁾.

If the technique for removing the adhesive is not properly employed, skin layers are removed with the adhesive, which not only affects skin integrity, but also causes pain and risk of infection, enlarging the wound, delaying healing, and damaging patients' quality of life. Even if there is no visible irritation, skin cells are somewhat detached and repeated application and removal compromise the barrier function, leading to inflammation and healing response^(2,4).

Medical adhesive-related skin injury (MARSIS) was defined in the United States in 2013 by McNichol and collaborators⁽²⁾ as an occurrence involving erythema and/or other manifestations of skin abnormality, including vesicles, blisters, erosion, and skin rupture, which persists for 30 minutes or more after adhesive removal. These are divided into five types: allergic and irritant dermatitis, folliculitis, maceration and mechanical trauma, which is subdivided into skin tear, epidermis stripping, and tension injury^(2,5-6).

Although all patients using adhesives are susceptible to such injuries, there are predisposing factors to their development, such as age extremes, humidity, malnutrition, dehydration, clinical and dermatological conditions, some types of medication, and previous use of adhesive products. Also, product design and properties contribute to increased risks^(2,5,7).

Cardiac patients hospitalized in Intensive Care Units (ICU) usually present compromised circulation, leading to changes in cardiac frequency and rhythm, low oxygen saturation, and hypotension. This requires vasoactive medication to improve blood circulation, aiming at preserving supply to brain and myocardium tissue and consequently changing tissue perfusion⁽⁸⁻⁹⁾.

The prevalence of MARSIS is still largely unknown. In a prospective cohort study with elderly individuals admitted to a long-stay institution, the incidence of skin injuries caused by adhesive tape was reported as 15.5% and the

clinical manifestations observed in such study were contact dermatitis (71%), trauma (21%), and infection (9%)⁽¹⁰⁾. The incidence of injuries due to adhesives was well-documented also in orthopedic surgery. Tension injuries are more frequent due to the use of large amounts of tape to maintain compression bandages. The risk of damage caused by tape is worsened by articular movement, skin friction, and presence of tissue edema⁽¹¹⁾. International studies describe the prevalence of MARSIS in China and in the United States as 19.7% and 13%, respectively^(1,12). No Brazilian epidemiological studies were found. Thus, additional studies are necessary to examine the prevalence of these injuries in all contexts of care, especially in the ICU context, to understand the occurrence of these injuries and implement prevention protocols with focus on quality of care and patient safety⁽¹³⁾. In such context, this study had the objective of identifying and analyzing the point prevalence of MARSIS in adult and elderly patients hospitalized in an ICU of two cardiac institutions and the demographic and clinical factors associated to their occurrence.

METHOD

DESIGN OF STUDY

Observational, epidemiological, cross-sectional, and quantitative study.

LOCAL

Conducted in the ICUs of two high-complexity teaching hospitals specialized in cardiology and located in São Paulo city.

POPULATION

The study population comprised all adult and elderly patients hospitalized in the ICUs of the two hospitals during the data collection period (n = 131).

Institution A has 109 available adult ICU beds per day destined to clinical and surgical cardiopneumology patients and is subdivided into six units. Institution B has 70 available adult ICU beds per day destined to clinical and surgical cardiovascular patients and is subdivided into three units. In the day of data collection, there were 48 unused beds, 30 of which in institution A and 18 in institution B.

SELECTION CRITERIA

The sample (n = 123) comprised patients hospitalized in the ICUs of these two hospitals who were 18 or older; those who were not in the unit during the data collection period and were discharged before being evaluated were excluded, as shown in the flowchart below (Figure 1).

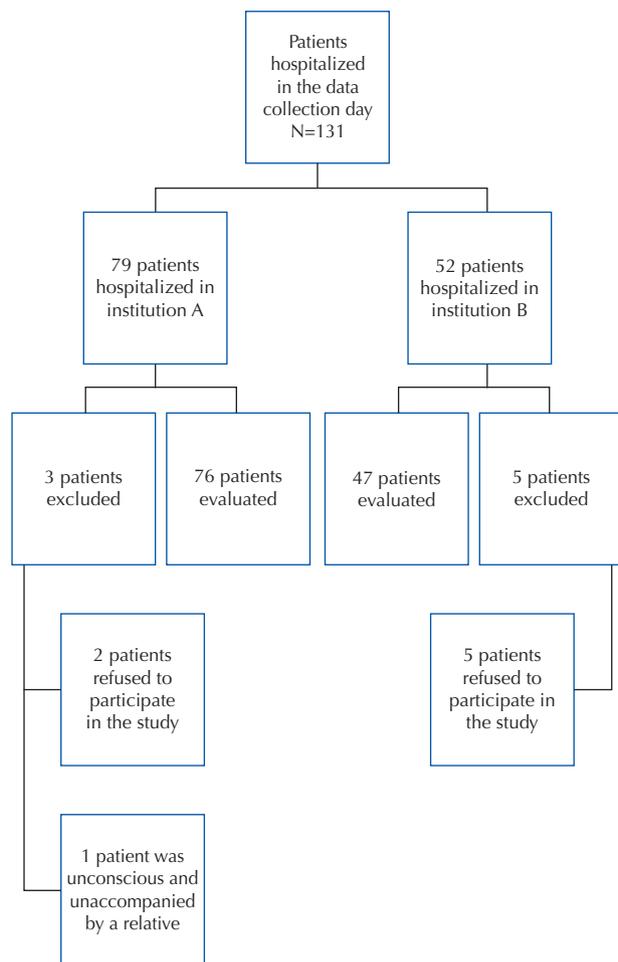


Figure 1 – Selection criteria.

DATA COLLECTION

The data collection was conducted in one day, May 15, 2019, in a 24-hour period, by enterostomal nurses and cardiology specialist nurses who provide care for skin injuries. All nurses who participated in the data collection have received an email with concise e-learning educational material on MARSII, their classification, causative agents, and other characteristics. All nurses have joined a meeting with the principal researcher to ask questions on the variables of the data collection instrument and a WhatsApp group was created to answer eventual questions. The data were collected by pairs of nurses to increase their reliability.

The demographic and clinical data were collected from the patients' medical records and the MARSII were collected through inspection and palpation of the patients' skin. Upon identification of injuries, they were evaluated for classification, number, location, and causative agent.

Two instruments were used for data collection. The first included demographic and clinical variables; the second included data on MARSII, classification, causative agents, and anatomic location.

In instrument 1, the collected demographic variables were gender and age. The clinical variables were weight, height, Body Mass Index (BMI), use of mechanical

ventilation, medical diagnosis, presence of comorbidities, anatomical location of surgery in patients submitted to surgical procedure, vital parameters (heart rate, body temperature, blood pressure, respiratory rate, PaO₂/FiO₂), laboratory exams (lactate, urea, creatinine, white blood cells, platelets), use of vasopressor, sedatives, muscle relaxants, kidney replacement therapy, use of extracorporeal circulation, presence of urinary, fecal and mixed incontinence, use of diapers, and malnutrition. Medical devices included respiratory tract devices (orotracheal or nasotracheal tube, tracheostomy tube, nasal oxygen catheter, non-invasive ventilation mask, venturi mask), central and peripheral venous catheters, arterial catheters, urinary catheters (urethral, cystostomy), feeding catheters (enteral, gastric; duodenal, jejunal) and other devices.

Variables related to MARSII were collected through instrument 2: classification, number of injuries presented by the same patient in the data collection day, causative agents, and anatomical location. The classification proposed by McNicho⁽²⁾ was employed: allergic and irritant dermatitis, folliculitis, maceration, and mechanical trauma, which is subdivided into skin tears, epidermis stripping, and tension injuries.

DATA TREATMENT AND ANALYSIS

The collected data were stored in a database developed in the *Research Electronic Data Capture* (REDCap) system, which is hosted in the server of the institution *Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo* (HCFMUSP). This software was developed by Vanderbilt University (Tennessee, United States) and is completely web-based; it provides for electronic data and study flow management and meets the international policies for data privacy and security in the health area⁽¹⁴⁾. The data were transferred to a Microsoft Excel sheet and were analyzed through descriptive statistics and bivariate analysis, with Pearson's chi-squared test, Fisher's exact test, two-sample T test, and Wilcoxon-Mann-Whitney test; and multivariate analysis: Classification and Regression Trees (CART). The adopted statistical significance level was 5% ($p < 0.05$).

Point prevalence was employed. This refers to the proportion of individuals who present a clinical condition at a specific point in time. It was calculated with the following formula⁽¹⁵⁾: prevalence = Number of patients with MARSII / total number of evaluated patients x 100.

ETHICAL ASPECTS

This study was approved in 2018 by the Research Ethics Committee of Universidade de São Paulo's Nursing School in Opinion n. 2.830.965. The ethical principles of Resolution n. 466/2012, by the National Health Council, were respected, and all research participants have signed the Informed Consent Form (ICF).

RESULTS

Out of the 123 patients who took part in this study, 76 were hospitalized in ICUs of institution A and 47 in the ICUs of institution B. In institution A, the male gender was predominant (39/51.3%) and the mean age was 57.7 years (SD=15.9), varying from 18 to 96 years. In institution B, the male gender was also predominant (28/59.5%) and the mean age was 65.6 years (SD=12.7), varying from 29 to 88 years.

Most patients were verified to have more than one associated diagnosis, especially acute myocardial infarction (23/18.7%) and cardiac insufficiency (20/16.2%). Regarding type of surgical procedure, 22 patients (36.6%) were submitted to valve replacement and 17 patients (28.3%) to myocardial revascularization; extracorporeal circulation (ECC) was used in 50 patients (40.6%). Regarding BMI, the sample presented a mean 25.7 Kg/m² (SD=5.36), with a 10.9 to 38.7 Kg/m² variation, which characterizes overweight, according to the limits described by the World Health Organization⁽¹⁶⁾.

Among the 123 evaluated patients, 28 presented MARSIs, characterizing a 22.7% prevalence. The prevalence for injury

subtypes ranged from 3.1 to 43.8%; these were: irritant dermatitis (3.1%), skin tear (40.6%), tension injury (12.5%), and epidermis stripping (43.8%). Out of 28 patients, four presented more than one injury, amounting to 32 MARSIs.

In institution A, 20 patients presented MARSIs, characterizing a 26.3% prevalence. The prevalence for each injury subtype was as follows: skin tear (34.4%), tension injury (6.2%), and epidermis stripping (31.3%).

In institution B, 8 patients presented MARSIs, characterizing a 17% prevalence. The prevalence for each subtype was: irritant dermatitis (3.1%), skin tear (6.2%), tension injury (6.2%) and epidermis stripping (12.6%).

In both institutions, the anatomic region most afflicted by MARSIs was the cervical (8/25.1%), followed by anterior thorax (7/21.9%).

Table 1 shows that most MARSIs are caused by transparent polyurethane film; however, no injuries with this etiology were found in institution B, whose most frequent causative agent was electrodes.

Tables 2 and 3 refer to associated factors to MARSIs according to bivariate analysis.

Table 1 – Distribution of medical adhesive-related skin injury per adhesive type and institution – São Paulo, SP, Brazil, 2018.

Institution	Types of injury										
	Tension injury		Epidermis stripping		Skin tear		Irritant dermatitis		Total	Total	Total
	A	B	A	B	A	B	A	B	A	B	A B
Type of adhesive											
Polyurethane film	2 (6.2)	-	8 (25.1)	-	5 (15.6)	-	-	-	15 (46.9)	-	15 (46.9)
Electrode	-	1 (3.1)	1 (3.1)	3 (9.4)	-	-	-	-	1 (3.1)	4 (12.6)	5 (15.7)
Adhesive elastic bandage	-	-	1 (3.1)	-	4 (12.6)	-	-	-	5 (15.7)	-	5 (15.7)
Microporous tape	-	1 (3.1)	-	-	1 (3.1)	1 (3.1)	-	-	1 (3.1)	2 (6.2)	3 (9.3)
Silk surgical tape	-	-	-	-	1 (3.1)	-	-	-	1 (3.1)	-	1 (3.1)
Adhesive tape	-	-	-	1 (3.1)	-	1 (3.1)	-	-	-	2 (6.2)	2 (6.2)
Collecting equipment	-	-	-	-	-	-	-	1 (3.1)	-	1 (3.1)	1 (3.1)
Total	2 (6.2)	2 (6.2)	10 (31.3)	4 (12.5)	11 (34.4)	2 (6.2)	-	1 (3.1)	23 (71.9)	9 (28.1)	32 (100.0)

Table 2 – Numerical clinical variables of patients with and without medical adhesive-related skin injury – São Paulo, SP, Brazil, 2018.

Clinical variables	Medical adhesive-related skin injury		p
	Yes – Mean (SD)	No – Mean (SD)	
Hospitalization time	30.59(26.7)	29.98(30.9)	0.32*
Urea	82.86(45.0)	70.9(45.8)	0.09*
Creatinine	1.53(0.8)	1.57(0.9)	0.73*
Glasgow	14.75(0.9)	14.59(1.5)	0.96*
Braden	12.32(4.0)	13.89(3.9)	0.06*
BMI	24.88(5.4)	26.02(5.3)	0.32**
Platelets	158,600(97070)	188,900(88290)	0.07*
SBP	113.8(16.6)	115.9(18.5)	0.58**
Number of devices	3.357(1.8)	3.484(1.9)	0.78*

*Wilcoxon-Mann-Whitney test ** Two sample T test

There were no statistically significant differences for the presence of MARSIs per numerical variables.

Table 3 – Categorical clinical variables of patients with and without medical adhesive-related skin injury – São Paulo, SP, Brazil, 2018.

Clinical variables	Medical adhesive-related skin injury		p
	Yes n (%)	No n (%)	
Kidney dysfunction			0.42*
Yes	4(16.6)	20(83.3)	
No	24(24.2)	75(75.7)	
Vasopressors			0.78*
Yes	12(24.0)	38(76.0)	
No	16(21.9)	57(78.0)	
Sedation			0.81*
Yes	8(24.2)	25(75.7)	
No	20(22.2)	70(77.7)	
Surgery			0.56*
Yes	15(25.0)	45(75.0)	
No	13(20.6)	50(79.3)	
Mechanical ventilation			0.22*
Yes	11(29.7)	26(70.2)	
No	17(19.7)	69(80.2)	
Orotracheal tube			0.64*
Yes	8(25.8)	23(74.2)	
No	20(21.7)	72(78.2)	
Tracheostomy			0.43*
Yes	3(33.3)	6(66.6)	
No	25(21.9)	89(78.1)	
Nasal catheter			0.74*
Yes	4(20.0)	16(80.0)	
No	24(23.3)	79(76.7)	
Peripheral catheter			0.01*
Yes	6(11.5)	46(88.4)	
No	22(30.9)	49(69.1)	
Central catheter			0.06*
Yes	24(27.2)	64(72.7)	
No	4(11.4)	31(88.5)	

continuing...

Clinical variables	Medical adhesive-related skin injury		p
	Yes n (%)	No n (%)	
Arterial catheter			0.93*
Yes	13(22.4)	45(77.6)	
No	15(23.1)	50(76.9)	
Urethral catheters			0.99*
Yes	15(22.7)	51(77.2)	
No	13(22.8)	44(77.2)	
Nasoenteral tube			0.27*
Yes	8(30.7)	18(69.2)	
No	20(20.6)	77(79.4)	
Gastrostomy			1.00**
Yes	-	3(100.0)	
No	28(23.3)	92(76.6)	
Mediastinal drain			0.90*
Yes	3(21.4)	11(78.5)	
No	25(22.9)	84(77.1)	
Pleural drain			0.70*
Yes	2(18.2)	9(81.8)	
No	26(23.2)	86(76.8)	
Hydrating creams			0.03*
Yes	21(25.3)	62(74.7)	
No	7(17.5)	33(82.5)	
Diaper			0.53*
Yes	22(24.2)	69(75.8)	
No	6(18.7)	26(81.2)	
Anal incontinence			0.40*
Yes	7(29.1)	17(0.8)	
No	21(21.2)	78(78.7)	
Urinary incontinence			1.000**
Yes	1(25.0)	3(75.0)	
No	27(22.7)	92(77.3)	
Use of ECC			0.48*
Yes	13(26.0)	37(74.0)	
No	15(20.5)	58(79.4)	

* Pearson's chi-squared test ** Fisher's exact test

In the clinical analysis of categorical variables (Table 3), the use of peripheral catheter (p=0.01) was significantly associated with the occurrence of MARSIs. Statistically significant associations between demographic variables (age and gender) and the occurrence of injury were not identified.

Figure 2 refers to factors associated to MARSIs according to multivariate analysis (CART).

According to CART analysis, there are three factors that best discriminate the group that developed MARSIs: patients with serum urea higher than or equal to 48.5 mg/dL and platelets lower than 193,500 mm³ have a 40% increased chance of suffering a MARSIs. Also, with serum urea higher than or equal to 48.5 mg/dL, platelets higher than or equal to 193,500 mm³ and Systolic Blood Pressure (SBP) higher than or equal to 122 mmHg, these chances are increased by approximately 30%.

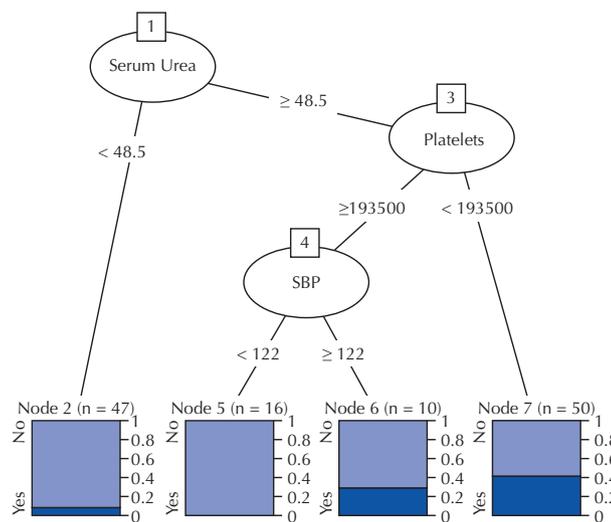


Figure 2 – Factors associated to the development of medical adhesive-related skin injury as per CART analysis – São Paulo, SP, Brazil, 2018.

DISCUSSION

The prevalence found for MARSIs in patients hospitalized in cardiologic ICUs in the present study was 22.7%. Presence of serum urea higher than or equal to 48.5 mg/dL, with platelets lower than 193,500 mm³ or platelets higher than or equal to 193,500 mm³, and SBP higher than or equal to 122 mmHg were shown to be associated factors to the occurrence of the investigated injuries.

Considering that no studies on the prevalence of MARSIs were found in patients hospitalized in cardiologic ICUs, this segment is based on the presentation of studies conducted with hospitalized patients in general.

An international study conducted in two non-critical care units in Midwestern United States of America found a mean prevalence of 13% (n=1,189), with the most expressive rate in the subpopulation of patients between 65 and 74 years⁽¹²⁾. Another study conducted in four Chinese hospitals⁽¹⁾ has found a 19.7% prevalence.

A study conducted with the elderly population had a 15.5% incidence of MARSIs, and the most prevalent subtype was contact dermatitis⁽¹⁰⁾. Another study developed in a vascular clinic found a prevalence of only 5.8%⁽¹³⁾ (n=120). The prevalence data found in the present investigation were higher than what most studies report, which may be due to differences in sample; this is so mainly because this study was developed in critical care units, which require more use of devices and, consequently, more application and removal of adhesives, which increases the risk for these injuries. No Brazilian epidemiological studies on MARSIs were found.

Among MARSIs, the predominant subtypes were epidermis stripping (43.8%), skin tear (40.6%), tension injury (12.5%) and, in the last position, irritant dermatitis (3.1%). These findings show that most injuries derive from mechanical trauma, which may be justified by the severity of this population, high use of devices, multiple procedures, and frequent use of adhesives that predispose this type of lesion.

The high prevalence of skin tear found in this study (40.6%) is contraposed to a point prevalence analysis conducted in two nursing wards in a hospital in Singapore⁽¹⁷⁾, which found a 6.2% prevalence, and a cross-sectional study conducted in four Chinese hospitals⁽¹⁾, in which the most frequent type of injury was allergic and irritant dermatitis (14.8%), whereas mechanical trauma presented a 5% prevalence (0.9% skin tear, 1.3% epidermis stripping, and 2.4% tension injury). The comparison among these data is limited by differences in diverse aspects, such as type of population, configurations of care, and types of adhesive material employed. The sample of the present study is composed of critical patients who presented changes in one or more vital organs, hemodynamic instability, and the need for rigorous control and higher-complexity treatment, which may entail higher susceptibility to the development of skin injuries⁽¹⁸⁾.

Tension injury presented a 12.5% prevalence in the present investigation, which diverges from data found in other studies. This type of injury is more commonly described among orthopedic patients; surgical specialty exerts a strong influence on this type of occurrence. An American study conducted in 2015⁽¹²⁾ involving patients from units of non-critical surgical and cardiac telemetry found a 1.2% prevalence; a clinical trial conducted in 2012⁽¹⁹⁾ found a 30% prevalence of tension injuries after hip surgery. Another randomized clinical trial⁽²⁰⁾ of patients submitted to hip procedures report a 10.7% prevalence of MARSIs among patients treated with non-woven adhesive tape versus 4% among patients treated with thin film adhesives. These results are hardly comparable, since not all this sample was composed of surgical patients. A similar prevalence is noted in both of this study's institutions, and the prevalence value is inferred to be justified by myocardial revascularization surgery, in which patients are submitted to saphenectomy.

This study has identified, in both institutions, the cervical region and the polyurethane film as the most frequent location and causative agent, respectively. These findings may be justified by the fact that these are two public teaching institutions that provide highly complex care to cardiac patients who routinely require catheters inserted in vessels such as the subclavian artery and jugular vein for measurement of central venous pressure (CVP) and infusion of vasoactive medication⁽²¹⁾. The coverage for insertion of central or peripheral venous catheters is elaborated with polyurethane film and gauze 24 hours from the insertion and subsequent application only of polyurethane film (if insertion is clean and dry, as per institutional protocol, following orientations of good clinical practices). The frequency of change and how removal is performed for this type of dressing may contribute to the occurrence of MARSIs.

Regarding the factors associated to MARSIs, identified by CART analysis, due to the scarcity of scientific evidence, no studies were found which corroborate that the presence of serum urea higher than or equal to 48.5 mg/dL, with platelets lower than 193,500 mm³ or platelets higher than or equal to 193,500 mm³, and SBP higher than or equal to 122 mmHg favor the occurrence of the investigated injuries. However, uremia (serum urea higher than 15–45 mg/dL) is

known to be related to nutrition and the patient's state of hydration, factors which, if inappropriate, predispose to an increase in skin susceptibility and consequent skin injuries. In addition, a high concentration of urea in the bloodstream entails, among other complications, uremic pruritus, which has as secondary outcomes skin abrasion and excoriation due to friction in attempts to relieve its symptom⁽²²⁾, making the skin more fragile and more likely to suffer rupture.

Regarding SBP, cardiac patients hospitalized in the ICU are commonly faced with hemodynamic instability, hypoperfusion, and organ failure, requiring vasoactive medication and invasive devices for maintenance of their vitality. The use of vasopressor medications, of invasive devices, and hypoperfusion are mentioned in the literature as factors associated to the development of pressure injuries⁽²³⁾. Moreover, peripheral vasoconstriction, provoked by vasopressor medication, leads to a reduction in skin perfusion and, consequently, a predisposition to the development of injuries.

New studies departing from these findings must be conducted so that all associated factors to the development of MARSIs are understood, enabling institutions to elaborate protocols aimed at preventing such injuries.

The institutions participating in this study have general protocols for skin injury prevention, but none directed specifically to MARSIs, what often leads to a knowledge deficit by service providers on this topic. Health professionals should be able to identify high-risk patients and perform daily skin evaluations while using products containing adhesives to seek evidence of skin damage and localized infection. Studies emphasize that recognizing signs of infection under the occlusive tape and the obtention of histories of allergy and known sensitivities are some of the required actions for preventing these injuries⁽²⁾.

Health professionals, especially nurses, are responsible for choosing the appropriate tape, considering the clinical objective, anatomical location, properties of adhesives, expected permanence, and skin conditions during the application. Trimming the hair in the application area may prevent its interference with the dressing, but the skin should never be shaved. When a liquid solution, such as antiseptic, is applied, this should be completely dry before the adhesive tape is placed to avoid humidity; during application, tension and asymmetrical areas should be avoided; removal

should be performed slowly, horizontally, in the direction of the growing hair and holding the skin close to removal point; the use of an adhesive remover should be cogitated to help removing it or minimizing the patient's discomfort or skin damage; also, excessive, unnecessary dressing changes should be avoided. Barrier film provides a protective interface between skin and adhesive and helps reducing the friction coefficient; there is no need to remove this product, which may be reapplied as necessary. Clinical studies show that barrier films have the capacity of reducing erythema and skin flaking after removal of the adhesive material; its use in people at risk of developing cutaneous injury is therefore essential^(2,24-26).

The maintenance of skin integrity is a basic requirement in health care and is directly related to patient safety. It avoids infections, treatment delays, long hospitalizations, patient pain, and hospital costs. MARSIs are an avoidable adverse event which demands investment in education and professional formation to offer the necessary tools for injury prevention and management, promoting quality of life and patient safety⁽²⁾.

The results of this study are counterposed to international findings. Cultural, financial, and public differences among countries should be considered. The results must be analyzed also considering as limitations the sample size and the scarcity of literature for discussing the data. The low number of publications on this theme reinforces the need for new studies, particularly Brazilian studies.

CONCLUSION

This study's results show that the prevalence of MARSIs was 22.7%, and epidermis stripping was the most prevalent subtype, followed by skin tear. The adhesive material which caused most injuries was the transparent polyurethane film (46.9%) and the most afflicted anatomic region was the cervical area (25.1%). Serum urea higher than or equal to 48.5 mg/dL, with platelets lower than 193.500 mm³ or platelets higher than or equal to 193,500 mm³, and SBP higher than or equal to 122 mmHg, were shown to be associated factors to the occurrence of the investigated injuries.

This study has contributed to the epidemiologic knowledge of MARSIs in critical patients with cardiologic diseases, favoring preventive care planning.

RESUMO

Objetivo: Identificar e analisar a prevalência pontual de lesão de pele relacionada a adesivos médicos em pacientes internados em Unidades de Terapia Intensiva cardiológicas e os fatores demográficos e clínicos associados à sua ocorrência. **Método:** Estudo transversal conduzido nas Unidades de Terapia Intensiva de dois hospitais públicos, referência em cardiologia, localizados no município de São Paulo, com 123 pacientes. Foram coletados dados demográficos e clínicos dos prontuários dos pacientes e as lesões foram identificadas por meio de inspeção da pele. Os dados foram analisados por meio de estatística descritiva e análises bivariada e multivariada (*Classification and Regression Tree*). **Resultados:** Apresentaram lesão de pele relacionada a adesivos médicos 28 pacientes, perfazendo prevalência de 22,7%. O principal agente causador foi o filme de poliuretano transparente (46,9%) e a região mais acometida foi a cervical (25,1%). Pela análise multivariada, os fatores associados foram presença de ureia sérica maior ou igual a 48,5 mg/dL e plaquetas menores que 193.500 mm³ ou plaquetas maiores ou iguais a 193.500 mm³ e pressão arterial sistólica maior ou igual a 122 mmHg. **Conclusão:** O estudo contribuiu para os conhecimentos relacionados à epidemiologia desse tipo de lesão, favorecendo o planejamento de cuidados preventivos.

DESCRIPTORIOS

Ferimentos e Lesões; Adesivos Teciduais; Prevalência; Unidades de Terapia Intensiva; Cuidados de Enfermagem.

RESUMEN

Objetivo: Identificar y analizar la prevalencia puntual de las lesiones de la piel relacionadas con adhesivos médicos en pacientes ingresados en Unidades de Cuidados Intensivos cardiológicos y los factores demográficos y clínicos asociados a su aparición. **Método:** Estudio transversal realizado en las Unidades de Cuidados Intensivos de dos hospitales públicos, de referencia en cardiología, ubicados en la ciudad de São Paulo, con 123 pacientes. Los datos demográficos y clínicos se recogieron de las historias clínicas de los pacientes y las lesiones se identificaron mediante la inspección de la piel. Los datos se analizaron mediante estadísticas descriptivas y análisis bivariado y multivariado (*Classification and Regression Tree*). **Resultados:** Hubo 28 pacientes con lesiones de la piel relacionadas con adhesivos médicos, con una prevalencia del 22,7%. El principal agente causante fue la película de poliuretano transparente (46,9%) y la región más afectada fue la cervical (25,1%). Mediante un análisis multivariado, los factores asociados fueron la presencia de urea sérica mayor o igual a 48,5 mg/dL y plaquetas menores de 193.500 mm³ o plaquetas mayores o iguales a 193.500 mm³ y presión arterial sistólica mayor o igual a 122 mmHg. **Conclusión:** El estudio contribuyó al conocimiento relacionado con la epidemiología de este tipo de lesión, favoreciendo la planificación de la atención preventiva.

DESCRITORES:

Heridas y Traumatismos; Adhesivos Tisulares; Prevalencia; Unidades de Cuidados Intensivos; Atención de Enfermería.

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