

Prevention of pressure injury in immunosuppressed patients: practice of humanized nursing care

Prevenção de lesão por pressão em pacientes imunossuprimidos: prática de assistência humanizada de enfermagem

Prevención de lesiones por presión en pacientes inmunodeprimidos: práctica del cuidado de enfermería humanizado

RESUMO

Introdução: A imunossupressão pode ser um risco para o aparecimento de lesões por pressão pois o iminente emagrecimento desses pacientes deixa bem evidentes as proeminências ósseas facilitando a constante pressão nestes locais. **Objetivo:** Descrever as condutas assistenciais e preventivas de enfermagem frente a pacientes com doenças infectocontagiosas e parasitárias portadores de lesões por pressão. **Metodologia:** Trata-se de uma pesquisa retrospectiva de caráter descritivo com abordagem quantitativa onde as variáveis utilizadas foram obtidas a partir de informações secundárias existentes no banco de dados da comissão de curativos de um hospital referência em infectologia. **Resultados:** Foram analisados registros de 25 pacientes com lesões por pressão, destes, 96% eram de pacientes acamados e a maioria apresentavam lesões por pressão infectadas. Quanto ao perfil epidemiológico, observou-se que o gênero masculino foi o mais acometido (84%), tendo como patologia de base aquela causada pelo Vírus da Imunodeficiência Humana (92%). Das condições socioeconômicas observou-se que 48% deles não tinham nenhuma renda. Quanto aos aspectos nutricionais 76% eram emagrecidos e com baixo peso. Quanto à classificação das lesões 42,9% eram estágio três. As condutas terapêuticas de enfermagem mais evidentes nos registros foram: a limpeza dos ferimentos com soros fisiológicos a 0,9% e glicosado a 0,5% mornos (para limpar, hidratar e facilitar o crescimento de células neófitas), também o emprego de debridantes autolíticos. Quanto as ações para profilaxia, a utilização das determinações existentes nas variáveis da escala de Braden foram as mais utilizadas. **Conclusão:** Ainda há a necessidade de sensibilização do corpo de enfermagem quanto ao compromisso em aplicar todas as determinações já existentes nas normativas do Ministério da Saúde-MS para benefícios destes pacientes acamados no que diz respeito a prevenção de lesões preveníveis, principalmente os que tem perda de tecido adiposo em grandes proporções em virtude da imunossupressão.

DESCRITORES: Imunossupressão, assistência de enfermagem, lesão por pressão, epidemiologia, lesões infectadas.

ABSTRACT

Introduction: Immunosuppression can be a risk for the appearance of pressure injuries because the imminent weight loss of these patients makes the bony prominences very evident, facilitating the constant pressure in these places. **Objective:** To describe the care and preventive nursing behaviors towards patients with infectious and parasitic diseases with pressure injuries. **Methodology:** This is a descriptive retrospective research with a quantitative approach where the variables used were obtained from secondary information existing in the database of the curative commission of a referral hospital in infectious diseases. **Results:** Records of 25 patients with pressure injuries were analyzed, of which 96% were bedridden patients and most had infected pressure injuries. Regarding the epidemiological profile, it was observed that the male gender was the most affected (84%), having as a base pathology that caused by the Human Immunodeficiency Virus (92%). Regarding socioeconomic conditions, it was observed that 48% of them had no income. Regarding nutritional aspects, 76% were thin and underweight. Regarding the classification of injuries, 42.9% were stage three. The most evident therapeutic nursing practices in the records were: cleaning the wounds with warm 0.9% saline and 0.5% glucose solution (to clean, hydrate and facilitate the growth of neophyte cells), as well as the use of debriding agents. autolytic. As for the actions for prophylaxis, the use of existing determinations in the variables of the Braden scale were the most used. **Conclusion:** There is still a need to raise the awareness of the nursing staff regarding the commitment to apply all the determinations that already exist in the regulations of the Ministry of Health-MS for the benefits of these bedridden patients with regard to the prevention of preventable injuries, especially those with loss of adipose tissue in large proportions due to immunosuppression.

DESCRIPTORS: Immunosuppression, nursing care, pressure injury, epidemiology, infected lesions.

RESUMEN

Introducción: La inmunosupresión puede ser un riesgo para la aparición de lesiones por presión debido a que la pérdida de peso inminente de estos pacientes hace muy evidentes las prominencias óseas, facilitando la presión constante en estos lugares. **Objetivo:** Describir las conductas asistenciales y preventivas de enfermería hacia pacientes con enfermedades infecciosas y parasitarias con lesiones por presión. **Metodología:** Se trata de una investigación retrospectiva descriptiva con enfoque cuantitativo donde las variables utilizadas se obtuvieron de información secundaria existente en la base

de datos de la comisión curativa de un hospital de referencia en enfermedades infecciosas. Resultados: Se analizaron los expedientes de 25 pacientes con lesiones por presión, de los cuales el 96% eran pacientes encamados y la mayoría presentaba lesiones por presión infectadas. En cuanto al perfil epidemiológico, se observó que el género masculino fue el más afectado (84%), teniendo como patología de base la provocada por el Virus de la Inmunodeficiencia Humana (92%). En cuanto a las condiciones socioeconómicas, se observó que el 48% de ellos no tenían ingresos. En cuanto a los aspectos nutricionales, el 76% eran delgados y con bajo peso. En cuanto a la clasificación de las lesiones, el 42,9% fueron estadio tres. Las prácticas terapéuticas de enfermería más evidentes en los registros fueron: limpieza de las heridas con solución salina tibia al 0,9% y glucosa al 0,5% (para limpiar, hidratar y facilitar el crecimiento de las células del neófito), así como el uso de agentes desbridadores autolíticos. En cuanto a las acciones para la profilaxis, el uso de las determinaciones existentes en las variables de la escala de Braden fueron las más utilizadas. Conclusión: Aún existe la necesidad de sensibilizar al personal de enfermería sobre el compromiso de aplicar todas las determinaciones que ya existen en la normativa del Ministerio de Salud-MS para las prestaciones de estos pacientes encamados en lo que se refiere a la prevención de enfermedades prevenibles. lesiones, especialmente aquellas con pérdida de tejido adiposo en grandes proporciones por inmunosupresión.

DESCRIPTORES: Immunosuppression, nursing care, pressure injury, epidemiology, infected lesions.

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Juliana Ferreira de Oliveira Pereira

Nursing student at Nilton Lins University Center – UNINILTONLINS
ORCID: 0009-0005-0298-0721

Greiciane Nascimento de Mesquita

Nursing student at Nilton Lins University Center – UNINILTONLINS.
ORCID: 0009-0005-7586-4617

Emilly Rodrigues da Conceição

Nursing student at Nilton Lins University Center – UNINILTONLINS.
ORCID: 0000-0001-5634-2323

Suzete Gomes Faria

Nursing student at Nilton Lins University Center – UNINILTONLINS.
ORCID: 0000-0003-0697-0991

Madlene de Oliveira Lima Neves

Nursing student at Nilton Lins University Center – UNINILTONLINS.
ORCID: 0000-0002-5614-1238

Flora Battanoli Amed

Nursing student at Nilton Lins University Center – UNINILTONLINS.
ORCID: 0009-0008-6097-1294

Andreza Dutra Rocha

Specialist Nurse graduated from the Nilton Lins University Center – UNINILTONLINS.
ORCID: 0000-0002-1870-8029

Paula Brenda da Silva Saraiva

Nursing student at Nilton Lins University Center – UNINILTONLINS.
ORCID: 0009-0009-4554-518X

Luciene Albuquerque da Silva

Nursing student at Nilton Lins University Center – UNINILTONLINS.
ORCID: 0000-0003-1054-3431

Qualitative Review

Juliana F.O. Pereira, Greiciane N. de Mesquita, Emily R. da Conceição, Suzete G. Faria, Madlene O.L. Neves, Flora B. Amed, Andreza D. Rocha, Paula B. S. Saraiva, Luciene A. da Silva, Arimatéia P. de Azevedo
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Arimatéia Portela de Azevedo

Master Nurse – coordinator of the Hospital Infection Control Commission-CCIH of the Tropical Medicine Foundation Dr. Heitor Vieira Dourado.

ORCID: 0000-0002-9250-1165

INTRODUCTION

The terminology “pressure ulcer” was changed by the National Pressure Ulcer Advisory Panel (NPUAP) to “pressure ulcer”, as this new expression more accurately describes this type of injury, both in intact and ulcerated skin. The change occurred not only in the terminology, but there were also updates to the nomenclature of the stages of the classification system^{1,9}.

Pressure injury (PI) happens when a specific area of soft tissue is infarcted and it's caused when the pressure to the skin is higher than the normal capillary occlusion pressure. This is especially true of cellular hypoxemia caused by increased normal capillary pressure exerted on the skin for a prolonged period of time.²

This type of injury is characterized as a problem of lack of attention, or even neglect, of the health team in relation to the necessary care for the bedridden patient, and this has become a point of concern for health services worldwide, as this situation can cause considerable harm to clients, causing physical disorders making rapid recovery impossible, recurrent affliction of pain, suffering and discomfort, not to mention the increased risk of complications such as serious infections, sepsis, and even increased morbidity and mortality.^{1,2,3}

According to North American data, the prevalence of PI in hospitals is 15% and the incidence is 7%. In the United Kingdom, the incidence is 4 to 10% of hospitalized patients.^{2,4}

In Brazil, there are still few studies and data on incidence and prevalence, but according to a study carried out in a university general hospital, there is already an incidence of 39.8 injured people per 100 bedridden. However, there are still few studied data on the incidence and prevalence of this condition.^{5,8}

It is important to emphasize that the Systematization of Nursing Care must be effective in preventing PI, enabling care for the client in need and assistance such as guidance and surveillance. Therefore, the characterization and registration of the PI are crucial for the adequate supervision of the care provided, since they facilitate the establishment of improvements in the correct treatment measures for the client.⁶

Therefore, every patient upon admission needs to undergo a systematic evaluation to take into account possible risk factors, vulnerabilities that may show changes in the skin. And this risk assessment for developing PI needs to be performed through the Braden Scale (BE) in adult patients or those aged over 5 years. This is a North American instrument, widely used in Brazil, in which the etiology of PI is studied, delimiting six subscales: sensory perception, activity, mobility, humidity, nutrition and friction and shear.^{7,10}

Most cases of PI, with the identification of patients at risk and the implementation of safe prevention strategies for the whole, can thus be avoided.^{8,9}

It is noteworthy that this condition is a characteristic problem in inpatient hospitals as a result of their long stay in the unit. Its prevention is an ongoing task, which requires frequent monitoring and daily inspections to detect possible changes in the patient's clinical status and damage to the skin caused by pressure. This way, it is pertinent to be interested in complying with Ordinance No. 529 of April 1st, 2013 of the Ministry of Health, which establishes the National Patient Safety Program (PNSP - Programa Nacional de Segurança do Paciente) which has as one of its goals the prevention of pressure injuries.¹¹

Its control can be carried out in a sim-

ple and practical way, but it still comes up against some factors associated with negligence in nursing care, such as the absence of changes in decubitus, in addition to the nutritional aspects of the patient, underlying disease, among other points to be observed and resolved.^{12,16}

The prevention of these lesions is part of the attributions of the nursing team, during patient care, and attention to information on the epidemiological profile of ulcer patients, characterization of pressure ulcers, comorbidities and predisposing factors in bedridden patients.¹³

In order to have a quality care indicator with a better analysis of cases and risk factors, the observance of the incidence of PI has become of paramount importance. This indicator serves to instruct prevention measures, contribute to the planning, management and evaluation of health actions, in addition to stimulating educational skills, as both prevention and treatment have become the focus of multidisciplinary actions in the various fields of health care.¹⁴

In a study carried out in a public hospital in Uberaba-MG, it was observed that of the 64.9% of the clients of the Clínica Médica who had a high percentage in the risk score, according to the Braden scale, 19.4% developed PI.¹⁵

Another similar study was carried out at Hospital e Pronto-Socorro 28 de Agosto, in the city of Manaus, and the results were similar to those found in the study carried out in Uberaba-MG.¹⁶

Therefore, the general objective of this study was to describe the care and preventive nursing behaviors for patients with infectious and parasitic diseases with pressure ulcers.

MATERIALS AND METHODS

This is a retrospective descriptive study where data were obtained from convenience samples and secondary data base obtained from patients assisted by the curative committee of the Hospital where the research was carried out. The necessary information was taken from the existing variables in the convenience sample of patients monitored by the dressing commission. Secondary data collected from the information base referring to one year were used.

The collected data were arranged in an Excel® spreadsheet to compose the database, then descriptive and analytical statistical analysis of their frequency was performed.

The study was conducted at a tertiary care university hospital, which is a reference for patients with infectious diseases in the Amazon.

RESULTS AND DISCUSSIONS

Records of 39 patients with Pressure Injury - PI were analyzed, of this total, 84% were male and the vast majority (86%) were bedridden, debilitated, emaciated, immunosuppressed by HIV, without companions and with long periods of hospitalization. Regarding the lesions, 20% had only aspects of contamination, but 80% had evidence of local infection. As for the odor, 56% had fetid odor characteristics and putrid appearance and for this reason most of these wounds (72%) were occluded and 28% semi-occluded.

The predominance of male patients with PI has already been mentioned in other scientific works. This predominance is possibly due to the fact that men only seek medical help when they are already in a serious condition.¹⁷

However, there are studies that report the predominance of females in the development of PI due to the greater longevity of women.^{18,22} However, due to the type of assistance that occurs in the studied institution, the predominance in this series was of the male gender, who may also be associated with the distribution of patients according to

Table 1: Sociodemographic profile of patients with Pressure Injury followed up

Gender	%	n
Male	84	39
Degree of Mobility in Bed		
Bedridden	91,3	
Socioeconomic Conditions		
Retired (has fixed income)	28	07
Self Employed (unstable income)	16	04
Unemployed (no fixed income)	48	12
Employee (has income)	08	02
With a minimum wage income	08	02
Lives in a wooden house	85	22
Lives in brick house	15	03
Lives in a 2-room house	100	25
Smoking habits		
	%	n
Yes	32	10
Alcohol intake		
Yes	56	16
Sleep/ Rest		
< 5 hours/day	8	3
5 - 6 hours/day	56	14
7 -8 hours/day	28	7
> 8 hours/day	8	4
Total	100%	39

Source: FMT/HVD curative committee data, Manaus-Am 2022

the diagnosis at admission, that is, of the 39 patients with pressure ulcers monitored by these projects, the majority, 92%, are immunocompromised patients due to the Human Immunodeficiency Virus (HIV).

According to the most recent Reports of the Joint United Nations Program on HIV/ AIDS (UNAIDS) in Brazil, since 2015 there has been an increase in the number of infected cases among men and a gradual reduction in the number of cases among women, totaling three cases in men for one case in women.^{19,20,21,22}

When observing the variables that indicated the degree of mobility in bed (Table 1), it was noticed that the vast majority, 91.3% of those who developed PI were bedridden. This could have been avoided if

the nursing team had adhered more to the existing determinations, such as a simple repositioning of the patient in bed every two hours, could have prevented the appearance of these injuries caused by pressure in a certain area of the body.

As for the risk factors, it was observed that there was a very expressive number (48%) of emaciated people who, possibly, because they cannot eat properly due to injuries in the oral cavity or lack of appetite or even because of the malabsorption syndrome due to immunosuppression.

Studies indicate that sleep and rest is a fundamental and significant practice for the healing process 22, but only 56% reported taking only a short rest of 5 to 6 hours a day (Table 1). Smoking, on the other hand, is

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shown in research as a risk factor which generates effects in the body that affect blood flow.^{23,24} On the other hand, alcoholism is also cited as an important risk factor because it can cause damage to neuronal cells and, among other things.^{23,25}

As the study was developed in a reference hospital in infectious and contagious diseases, most (64%) of the participants included in this research were patients with Acquired Immunodeficiency Syndrome and co-infected with neurotoxoplasmosis - HIV+NTX (Figure 1). Patients with NTX+HIV are generally serious, bedridden, and dependent on constant repositioning in bed, with a lowered level of consciousness and also with impaired diet acceptance.

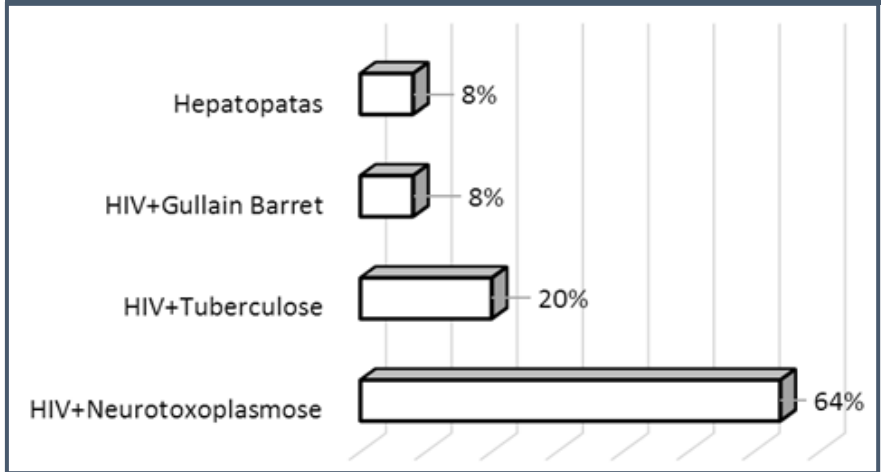
Other authors say, in their studies, that they noticed a 19% increase in the appearance of PIs in patients who had some neurological pathology.^{21,22}

As for the nutritional aspect, the records showed that 76% were emaciated and required intervention by the nutrition sector.

Research emphasizes that nutritional deficiencies caused by lack of vitamins, as well as anemia decrease, nutrient support to injured tissue, and decreases the effectiveness of tissue restoration, as well as other exhausting systemic diseases. Inadequate nutritional status is seen as a triggering point in the formation of PI by helping to decrease tissue tolerance and delaying the healing process.²³

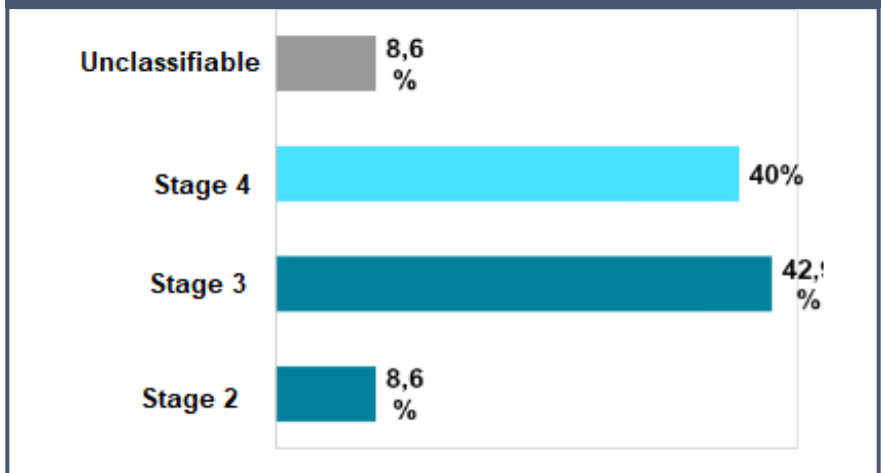
Existing records in the dressing committee showed that most patients (64%) had only one lesion, but the rest (36%) had between two and four lesions. Such evidence could have been different if the adequacy of the diet, the performance of passive exercises and the sequence of repositioning the patient in bed had been followed. As for the anatomical region of the body, of the 42 injuries, the sacral region was the most prevalent (57.1%), followed by the trochanteric region (16.7%) and gluteal region with 4.8% (Table 2). It is known that lesions tend to appear more frequently at the site of the body where the patient remains positioned on it for the longest time, and the sacral and gluteal regions are the main ones.

Figure 1 - Description of infectious and immunosuppressive pathologies of the 39 patients who developed pressure ulcers during hospitalization



Source: FMT/HVD curative committee data, Manaus-AM 2022

Figure 2 - Description of Lesions, by depth, according to the National Pressure Ulcer Advisory Panel (NPUAP) Classification System



Source: FMT/HVD curative committee data, Manaus-Am 2022

In most of the already installed lesions, there were signs of infection due to the presence of necrotic tissues and serous or seropurulent exudates. Many of these lesions needed to be covered twice a day due to their saturation.

Exudate is a fluid material, formed by cells that leave a blood vessel and remain in tissues or tissue surfaces, which may be characteristic of an infectious process, it is extremely important to document the quality and quantity of PU exudate, which guides the monitoring of response to treatment and the diagnosis of infection.^{21,24}

Regarding the characteristics of the odor that may be present in the lesions, studies emphasize that smell can help in the diagnosis of infections present in the wound, as it can be produced by bacteria and decomposing tissues.²² Thus, in this study, a fetid odor was present in most wounds (56%).

Other authors show that there is a difference between infection which implies parasitism having metabolic interaction and immune reaction and inflammatory response. Contamination, on the other hand, has a microorganism on the epithelial surface without tissue propagation, physiological reac-

tion or metabolic dependence with the host, and in colonization there is no clinical expression and immunological reaction, but there is a relationship of metabolic dependence with the host.^{19, 20, 22}

CONCLUSION

Nursing professionals are in constant interaction and direct monitoring with bedridden patients and also with skin lesions, however, although pressure ulcers are a commonly seen finding in hospitalization institutions, there are still few studies and epidemiological data that aim to guide better care and follow-up.

It was evident from this study that the male gender was the most affected by PI, although literature confirms and shows different data, but we can take into account the group of patients studied, and according to their underlying pathologies, it can be said that the majority had the acquired immunodeficiency virus-AIDS. This is a guiding point, since the immunosuppression caused by the HIV virus is a factor that implies the outbreak of co-infections. Other predisposing factors such as smoking, alcoholism, impaired sleep patterns, socioeconomic aspects, most of these users being low-income, which may increase the likelihood of patients losing weight, also bearing in mind the impaired mobility in the bed, which are notorious and motivating elements in the conjunction of intrinsic and extrinsic factors, which facilitated the appearance of PI in these patients.

Thus, using the classification of the National Pressure Ulcer Advisory Panel (NPUAP), the highest occurrence of infected lesions were those that were in stages 3 and 4 with the highest prevalence of appearance in the body, the lesions of the sacral region.

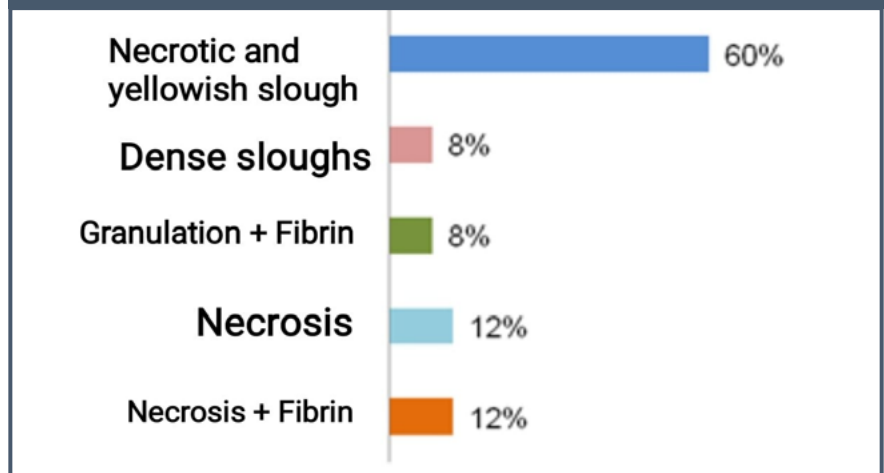
Therefore, it is concluded that prevention is still the best way to reduce the occurrence of these adverse events, especially in view of the difficult, painful and long-lasting treatments. It is also necessary for the nursing team to have a holistic view and truly provide humanized care.

Table 2: Anatomical regions affected by Pressure Injury in the 39 patients studied

Anatomical region affected by Pressure Injury	%	n
Right foot toe	2,4	1
Inner face left forearm	2,4	1
Gluteal	4,8	2
Right infra scapular	2,4	1
Sacral	57,1	24
Right Trochanter	16,7	7
Left Trochanter	14,3	6
Total	100%	39

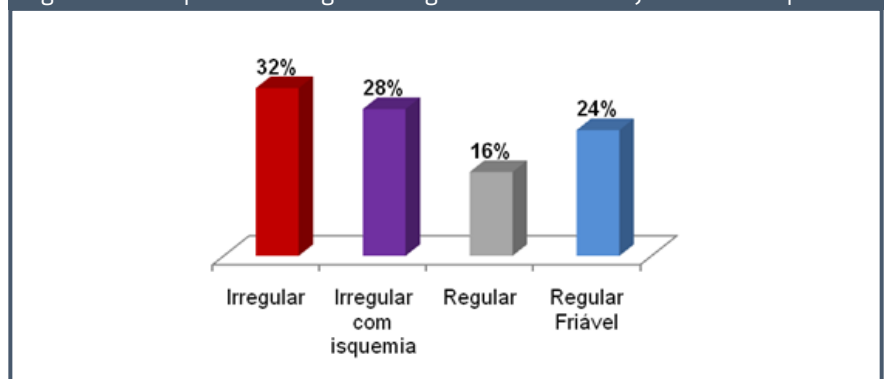
Source: FMT/HVD curative committee data, Manaus-Am 2022

Figure 3- Distribution of wounds according to tissue types found in Pressure Injury beds



Source: FMT/HVD curative committee data, Manaus-Am 2022

Figure 4- Description according to the edges of the Pressure Injuries of the 25 patients



Source: FMT/HVD curative committee data, Manaus-Am 2022

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