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Original Research Article

Evaluation of decubitus ulcers in palliative care center

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ABSTRACT

Background: Decubitus is ulcerated wounds occurring in the body regions that are exposed to prolonged pressure. Predisposition to decubitus is not fully understood. In this study, we aimed to investigate this opinion in the light of the literature.
Methods: Retrospective screening of patients in palliative care center between May 2016 and September 2017 were made with medical records of University of Health Sciences, Bursa Yuksek Ihtisas Training and Research Hospital. A total of 113 patients 43.4% (n=49) female; mean age:67.03±20.42 years hospitalized in the palliative care were included in the study.
Results: Decubitus was found in 64% (n=16) of 25 patients admitted from house, 69.6% (n=16) of 23 patients referred from the inpatient service, and 66.2% (n=43) of 65 patients referred from the intensive care unit.
Conclusions: No statistically significant difference were present between incidences of decubitus according to the status of admission. Decubitus ulcers may develop due to patient and care factors independent from time and location. This study supports this opinion by comparing the incidences between ICU, houses, and hospitals, in the light of the literature.

Keywords: Decubitus, Palliative care unit, Prevalence

INTRODUCTION

Decubitus is ulcerated wounds occurring in the body regions that are exposed to prolonged pressure.[1,2] Decreased perfusion, oxygenation deficiency, imbalanced nutrition, increased skin moisture (incontinence), advanced age, variable body temperature, and impaired general health status in bed dependent patients are involved in the occurrence of decubitus which develops due to shearing, friction and continuous pressure and causes severe infections that may progress to sepsis. Decubitus afflicts the patient and bring care burden to the patient relatives. Although prevention of decubitus is quite easy and inexpensive, its treatment is challenging and expensive, therefore brings burden to the national economy.[3-5] There are many protocols to prevent development of decubitus. Although decubitus has about 100 risk factors, there is still no consensus on its incidence, time, localization and medium of decubitus, while predisposition to decubitus is not fully understood. In this study, we aimed to investigate this opinion in the light of the literature.

METHODS

Our study was observational retrospective study. A total of 113 patients hospitalized in the palliative care center of University of Health Sciences, Bursa Yuksek Ihtisas Training and Research Hospital between May 2016 and September 2017 were screened. Localizations and stages of decubitus ulcers were recorded. Patients' demographic data and chronic disease characteristics were also recorded. Staging of decubitus ulcers was made according to the National Pressure Ulcer Advisory Panel (NPUAP)

and European Pressure Ulcer Advisory Panel (EPUAP), while risk stratification was made using Braden risk scale.

Statistical analysis was performed using NCSS (Number Cruncher Statistical System) 2007 (Kaysville, Utah, USA) software. Data were evaluated using descriptive statistical methods (mean, standard deviation, median, frequency, ratio, minimum, maximum), while Mann Whitney U test was used in comparison of non-normally distributed quantitative variables between two groups. Kruskal Wallis test was used in comparison of non-normally distributed three or more groups. P values <0.05 were considered statistically significant.

RESULTS

A total of 113 patients hospitalized in the palliative care center of Bursa Health Sciences University Hospital between May 2016 and September 2017 were retrospectively screened. 43.4% of patients were (n=49) female; and mean age was 67.0±20.4 (18-97) years. Duration of hospitalization ranged between 3 and 114 days with a mean duration of 30.2±22.9 days (Table 1). Decubitus ulcers were found in 66.4% (n=75) with 64.0% (n=48) in only one localization, 21.3% (n=16) in two localizations, and 14.7% (n=11) in three or more localizations. Evaluating the localizations of decubitus ulcers; 61.1% (n=69) were in the coccyx, 21.2% (n=24) in the extremities, 14.2% (n=16) in the lower back, and 4.4% (n.5) in the head-neck region. Grades of the decubitus ulcers are given in Table 2.

Table 1: Distribution of demographic features.

Demographic features		N (%)
Age (year)	Min-Max (Median)	18-97 (75)
	Mean±SD	67.03±20.42
Sex	Female	49 (43.4)
	Male	64 (56.6)
Hospital stay (day)	Min-Max (Median)	3-114 (24)
	Mean±SD	30.22±22.90

Table 2: Distribution of decubitus ulcer features.

Decubitus ulcer features	N (%)
Decubitus ulcer	75 (66.4)
1 area	48 (64.0)
2 areas	16 (21.3)
≥3 areas	11 (14.7)
Coccyx	69 (61.1)
Grade 1	8 (11.6)
Grade 2	22 (31.9)
Grade 3	26 (37.7)
Grade 4	13 (18.8)
Extremity	24 (21.2)
Grade 1	4 (16.7)
Grade 2	13 (54.2)
Grade 3	3 (12.5)
Grade 4	4 (16.7)
Back	16 (14.2)
Grade 1	2 (12.5)
Grade 2	13 (81.3)
Grade 4	1 (6.2)
Head-neck	5 (4.4)
Grade 2	4 (80.0)
Grade 3	1 (20.0)

Table 3: Admission and discharge features.

		N (%)
Admission features	Home	25 (22.1)
	Inpatient	23 (20.4)
	Intensive care unit	65 (57.5)
Discharge features	Home	65 (57.5)
	Inpatient	2 (1.8)
	Intensive care unit	19 (16.8)
	Ex	27 (23.9)

Table 4: Distribution of admission status of patients with decubitus ulcer.

		N (%)
Admission status of patients with decubitus ulcer (n=75)	Home	16 (21.3)
	Inpatient	16 (21.3)
	Intensive care unit	43 (57.4)

Table 5: Evaluation of decubitus ulcer presence according to admission status.

		Admission status			P value
		Home (n=25)	**Inpatient (n=23)**	**ICU (n=65)**	
		n (%)	**n (%)**	**n (%)**	
Decubitis ulcer	No (n=38)	9 (36.0)	7 (30.4)	22 (33.8)	0.919
	Yes (n=75)	16 (64.0)	16 (69.6)	43 (66.2)	

Pearson Chi-square Test

The status of admissions was found as house in 22.1% (n=25), inpatient service in 20.4% (n=23), and intensive care unit in 57.5% (n=65). The status of discharge was found as house in 57.5% (n=65), inpatient service in 1.8% (n=2), and intensive care unit in 16.8% (n=19), while 23.9% (n=27) of the patients died (Table 3). Distribution of admission status of patients with decubitus ulcers is given in (Table 4). Accordingly, of the patients with decubitus ulcers 21.3% (n=16) were admitted from house, 21.3% (n=16) from inpatient service, and 57.4 (n=43) from intensive care unit. When all patients were evaluated, decubitus was found in 64% (n=16) of 25 patients admitted from house, 69.6% (n=16) of 23 patients referred from the inpatient service, and 66.2% (n= 43) of 65 patients referred from the intensive care unit. No statistically significant difference between incidences of decubitus according to the status of admission (p=0.919) (Table 5).

DISCUSSION

As it is known, the decubitus has 100 different risk factors and the incidence varies from 4 to 70%, there are very few similar diseases in the medical literature, we are still trying to clearly illustrate the limits of the decubitus. Our findings suggest that the presence of decubitus is uncertain even in terms of its location. The decubitus is an unknown clinical entity in our opinion. By accepting this fact, our hope is that in the near future, about decubitus to find answers to the questions; What? Where? When? Why? How? Who? Bergstrom showed that pressure related injury is developed in more than 70% of high-risk patients.[6] Similarly, in our study we found decubitus ulcers in 66.4% of the patients hospitalized in our palliative care unit. However, incidence of decubitus ulcers is highly variable in the literature.[7,8] According to the National Pressure Ulcer Advisory Panel NPUAP-2001, the incidence of pressure sore is between 0.4-38% in the acute care units, between 2.2-23.9% in the prolonged care units, and between 0% and 17% in home care.[9] There is no comprehensive data in Turkey about pressure sore. When studies were examined; in their study with 496 patients in internal-surgical clinics and intensive care units of a university hospital, Inan and Öztunç found the incidence of pressure sores as 10.4%. In a study conducted by Tel et al pressure sores were developed in 41% of the patients hospitalized with the diagnosis of cerebrovascular disease in the intensive care unit of a university hospital in 2006.[10,11] One should be careful when interpreting the reported incidence and prevalence, because methodology and follow-up duration differ among the studies. These studies tend to be small, and involve only one institution, which make the generalizability unclear. In addition, some studies on decubitus indicate that decubitus is resulted from the hospital which is caused by lack of personnel, knowledge, excessive workload or inattention.[12] Whereas the development of pressure sores is a complex process requiring application of external forces to the skin .[13] One the other hand, external forces alone are not enough to cause ulcers, instead interaction of these force with host factors lead to tissue damage. Decubitus patients are usually elderly people with chronic diseases, impaired nutrition and general health status, and are bed dependent. While advanced decubitus wounds can be opened in very short times, conversely these found may not be developed even in persons who were in bed for a long time.[14] Or these sores may develop not only in hospital and/or intensive care unit, but also at home. Hypoxia is increasingly recognized as a cause of decubitus.[15] On the other hand, more than 100 factors have been described in the literature for the development of decubitus.[7] However, it is not exactly known whether these are independent risk factors or whether they simply reflect high immobility rate among fragility for elderly patients. As an example, moisturized skin (incontinence) is among the risk factors for decubitus, hydration degree of the patient has same effect. Namely, it is said that both the surface on which the patient lies should be dry and the patient will be nor dry neither edematous. This means to keep the patients in a very fragile balance. Of course, immobility is the most important factor contributing to pressure related skin and tissue damage. However, decubitus does not develop at the same rate and same localization in all hospitalized patients, while the major triggering factor of decubitus is immobility and about 100 factors, although underlying cause still protects its veil. Inadequate skin perfusion is increasingly recognised. In a reduced perfusion medium, the pressure applied to the skin for less than two hours may be sufficient to cause serious damage. When vital organs such as the kidneys and gastrointestinal tract are not adequately perfused, the blood flow to the skin also decreases, which increases the risk of developing pressure-related injuries. Factors contributing to reduced perfusion include volume reduction, hypotension, vasomotor insufficiency and vasoconstriction (secondary to shock, heart failure or secondary to drugs) and underlying peripheral arterial disease. Although not consistently reported, some studies have reported a relationship between low blood pressure and pressure injuries.[6,16,17]

CONCLUSION

The article discussed the incidence of decubitus. We have investigated the question of where it may appear. We found that similar rates may occur in home, inpatient services and intensive care units. It is suggested that there are some points to be clarified in the etiopathogenesis of decubitus**.** This study indicates that decubitus ulcers may develop due to patient and care factors independent from time and location. This study supports this opinion by comparing the incidences between ICU, houses, and hospitals, in the light of the literature. In the literature decubitus is thought to occur due to lack of health personnel, caregiver knowledge and experience and attention.

Although there are many risk factors, formation mechanisms and protection proposals for decubitus, prominent oxygenation and blood pressure improvement are the most important factors.

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REFERENCES

1. Sibbald RG, Krasner DL, Woo KY. Pressure ulcer staging revisited: superficial skin changes and Deep Pressure Ulcer Framework©. Adv Skin Wound Care. 2011;24(12):571-80.
2. Evans JM, Andrews KL, Chutka DS, Fleming KC, Garness SL. Pressure ulcers: prevention and management. Mayo Clin Proc. 1995;70(8):789-99.
3. Armstrong DG, Ayello EA, Capitulo KL, Fowler E, Krasner DL, Levine JM, et al. New opportunities to improve pressure ulcer prevention and treatment: implications of the CMS inpatient hospital care present on admission (POA) indicators/hospital-acquired conditions (HAC) policy. A consensus paper from the International Expert Wound Care Advisory Panel. J Wound Ostom Contin Nurs. 2008;35(5):485-92.
4. Duncan KD. Preventing pressure ulcers: the goal is zero. Jt Comm J Qual Patient Saf. 2007;33(10):605-10.
5. McCannon CJ, Hackbarth AD, Griffin FA. Miles to go: an introduction to the 5 Million Lives Campaign. Jt Comm J Qual Patient Saf. 2007;33(8):477-84.
6. Bergstrom N, Braden B. A prospective study of pressure sore risk among institutionalized elderly. J Am Geriatr Soc. 1992;40(8):747-58.
7. Lyder CH. Pressure ulcer prevention and management. JAMA. 2003;289(2):223-6.
8. Reddy M, Gill SS, Rochon PA. Preventing pressure ulcers: a systematic review. JAMA. 2006;23(8):974-84.
9. Dorner B, Posthauer ME, Thomas D; National Pressure Ulcer Advisory Panel. The role of nutrition in pressure ulcer prevention and treatment: National Pressure Ulcer Advisory Panel white paper. Adv Skin Wound Care. 2009;22(5):212-21.
10. İnan DG, Öztunç G. Prevalence of pressure ulcers in patients admitted to Çukurova University Balcali Hospital. Çukurova University, Adana; 2009.
11. Tel H, Özden D, Çetın G. The risk of developing pressure sores in bedridden patients and the preventive care applied by nurses to these patients. Turk J Res Develop Nurs. 2006;8(1):35-45.
12. Knox DM, Anderson TM, Anderson PS. Effects of different turn intervals on skin of healthy older adults. Adv Wound Care. 1994;7(1):48-56.
13. Reuler JB, Cooney TG. The pressure sore: pathophysiology and principles of management. Ann Intern Med. 1981;94(5):661-6.
14. Gefen A. How much time does it take to get a pressure ulcer? Integrated evidence from human, animal, and in vitro studies. Ostom Wound Manage. 2008;54(10):26-35.
15. Stekelenburg A, Gawlitta D, Bader DL, Oomens CW. Deep tissue injury: how deep is our understanding? Arch Phys Med Rehabil. 2008;89(7):1410-3.
16. Mawson AR, Biundo JJ, Neville P, Linares HA, Winchester Y, Lopez A. Risk factors for early occurring pressure ulcers following spinal cord injury. Am J Phys Med Rehabil. 1988;67(3):123-7.
17. Schubert V. Hypotension as a risk factor for the development of pressure sores in elderly subjects. Age Ageing. 1991;20(4):255-61.

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