HAYDARPAŞA NUMUNE MEDICAL JOURNAL

DOI: 10.14744/hnhj.2022.75301
Haydarpasa Numune Med J 2023;63(4):471–478

ORIGINAL ARTICLE

Retrospective Evaluation of Pressure Ulcers in the Intensive Care Unit

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Abstract

Introduction: This study aimed to investigate the incidence and risk factors of pressure ulcers (PU) in the intensive care unit (ICU).

Methods: Patients who developed PU in the ICU between January and June 2019 were retrospectively investigated. Patients who were treated in the ICU for longer than 72 h were included. Patient demographics, length of stay, cause of admission, risk scores at ICU admission, comorbidities, time to PU development, PU stage, Braden Scale at admission and discharge, invasive mechanical ventilation (IMV) duration, use of sedatives of vasopressors, laboratory results, and mode of discharge were recorded for patients with PU. Patient factors were compared between age groups.

Results: Among the 411 patients admitted to the ICU, there were PU in 60 patients (14.5%). The median age was 72 years and the median length of ICU stay was 39.5 days for the patients with PU. 96.7% of patients with PU were under IMV, 83.3% were under sedatives, and 68.3% were administered vasopressors. The median time to PU development was 14 days. The most frequent PU stages were stage 1 and stage 2. PU were most frequently located in the sacrum and the heel. The rate of PU was higher in patients aged 65 or above.

Discussion and Conclusion: Multiple factors contribute to PU development. A comprehensive PU management plan is necessary for the prevention of PU in the ICU.

Keywords: Intensive care unit; pressure ulcer; retrospective.

Pressure ulcers (PU) are necrotic tissues resulting from prolonged interruption of blood supply to the skin and can occur on any part of the body[1]. Pressure, with its duration and intensity, is central to their development. All hospitalized patients are at risk of PU which can present on any part of their body. PU are encountered frequently in the intensive care unit (ICU) setting, increasing the length of stay, cost of treatment, and mortality.

Patients in the ICU can carry many risks that contribute to PU development including limited mobilization, severe disease requiring prolonged hospitalization, use of sedatives, analgesics, and muscle relaxants, loss of consciousness, metabolic derangements, poor ventilation, hemodynamic instability, malnutrition, increased inflammation, and incontinence. Due to these coexisting factors, patients treated in the ICU are predisposed to the development of PU during their treatment[2,3].

Patients of all ages can develop PU, while advanced age is

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Submitted Date: 09.05.2022 **Revised Date:** 20.06.2022 **Accepted Date:** 29.06.2022
Haydarpaşa Numune Medical Journal
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associated with various factors that facilitate ulcer occurrence. A disrupted inflammatory response is seen in elderly patients, as well as a decrease in the production of growth factors, collagen, and elastin. The reproduction of epithelial cells is diminished and multiple chronic illnesses can coexist in the elderly patients, subjecting them to an increased risk of PU compared to younger patients[3].

The presence of PU complicates the treatment of patients leading to increased costs and longer lengths of stay[3,4]. Management of these ulcers can pose challenges to the clinicians and surgeons involved in their treatment. Therefore, it is crucial to identify risk factors that lead to PU and be familiarized with preventative measures[3]. PU contributes to the mortality of ICU patients and is a significant parameter of the quality of clinical care[5].

In our study, we aimed to identify the incidence of PU in the ICU and the clinical and biochemical risk factors that are associated with PU development.

Materials and Methods

Patients treated in the ICU at Fatih Sultan Mehmet Research and Training Hospital between January 1st, 2019, and June 31st, 2019 were retrospectively investigated. Approval was obtained from the ethics board (17073117-050.06) for this study. In our hospital, all patients are routinely assessed for nutritional status, positioning in bed, and mobility to prevent PU development and treat existing PU. Standard measures against PU are applied to all patients. Patient data were recorded from the doctors' and nursing documentation. Patients of both genders, aged 18 or above, with longer than 72 h of ICU stay were included in this study. Patients under 18 years of age, with <72 h of ICU stay, or PU at the time of admission were excluded from the study.

Age, gender, cause for ICU admission, comorbidities, Acute Physiology and Chronic Health Evaluation (APACHE II) score, Simplified Acute Physiology Score (SAPS 2) score, 2002 Nutritional Risk Screening (NRS) score, the time of PU development, the number, stage, and localization of PU, Braden Scale scores at admission and discharge, duration of ICU stay, duration of invasive mechanical ventilation (IMV), sedation or vasopressor requirement, levels of hemoglobin, albumin, total protein, and magnesium, mortality, and the mode of ventilation at discharge (with spontaneous breathing or ventilators) were recorded. Patients were grouped according to age with patients <65 years of age in the first group and ≥65 years of age in the second group. The cause of ICU admission was categorized as primary respiratory insufficiency for pulmonary diseases including asthma, chronic obstructive pulmonary disease, pneumothorax, pulmonary edema, bronchiectasis, acute respiratory distress syndrome, and secondary respiratory insufficiency for sepsis, trauma, malignancies, endocrine or metabolic diseases, cerebrovascular events, and postoperative patients.

The revised PU staging system formed with the collaboration of the United States National Pressure Ulcer Advisory Panel (NPUAP) and the European Pressure Ulcer Advisory Panel (EPUAP) was used in this study. The PU are staged as Stage 1 for intact skin with a localized area of nonblanchable erythema usually over a bony prominence, Stage 2 for partial thickness loss of dermis with pink–red wound bed, Stage 3 for full thickness skin loss, Stage 4 for full thickness skin loss with exposed bone, tendon, of muscle, and Stage 5 (Unstageable) for full thickness skin and tissue loss in which the extent of the ulcer is obscured by slough or eschar[6].

The Braden Scale is the most commonly used risk score for the prediction of PU. It was developed by Nancy Bergstrom, Barbara J. Braden, and others in 1987 for the early identification of patients at risk of PU[7]. It consists of six parameters including sensory perception, moisture, activity, mobility, nutrition, and friction/shear with possible scores ranging from 6 to 23. A score of <12 points is low risk, 13–14 points is medium risk, and 15–16 points (15–18 points for patients aged >75) is low risk[7]. Patients in the ICU were evaluated daily with the Braden Scale and the scores at admission and discharge were recorded. Patients were administered a daily passive range of motion exercises by a physiotherapist and positioned every 4 h against skin injury.

Statistical Analysis

Statistical analysis was carried out using the IBM SPSS Statistics 22 (IBM SPSS, Türkiye) software. The Shapiro–Wilk test was applied to test the normal distribution of parameters. Besides descriptive statistics (mean, standard deviation, and frequency), the Mann–Whitney U test was used to compare parameters without normal distribution between the groups.

Fisher's Exact test, Fisher Freeman Halton test, and Yates continuity correction were applied for comparison of qualitative data. Spearman's rho test was used to analyze the correlation of parameters without normal distribution. A $p<0.05$ was considered statistically significant.

Results

Among the 411 patients treated in the ICU between January and June 2019, 60 (14.5%) patients had newly developed PU. The mean age of the patients with PU was

Table 1. Demographics, length of stay, ICU risk scores, causes of admission, comorbidities, need for IMV, use of sedatives and vasoactive agents, mode of discharge, and mortality of study patients

	Median (Min-Max)	Mean±SD
Age	72 (23–94)	69.13±15.3
Total length of stay (days)	39.5 (11–147)	47.67±29.73
IMV duration (days)	37.5 (0–145)	42.23±30.82
APACHE 2	18 (8–31)	18.2±6.07
SAPS2	38.5 (16–78)	38.7±13.56
NRS 2002	2 (0–7)	2.53±1.6
Hemoglobin	10 (5.1–16.2)	10.35±2.17
Albumin	2.8 (1.2–4.4)	2.86±0.76
Total Protein	5.5 (3–7.2)	5.54±0.89
Magnesium	1.8 (1–2.7)	1.82±0.35
	n	**%**
Gender		
Male	30	50
Female	30	50
Age group		
< 65	21	35
≥ 65	39	65
Cause of Admission		
Primary respiratory failure	43	71.7
Secondary respiratory failure	17	28.3
Comorbidities		
Dementia	9	15
Epilepsy	4	6.7
Chronic Renal Failure	11	18.3
Hypertension	35	58.3
Cardiac Disease	19	31.7
Diabetes	22	36.7
COPD	17	28.3
GIS	4	6.7
Malignancy	4	6.7
Cerebrovascular Event	8	13.4
Rheumatoid Arthritis	2	3.3
Thyroid Disease	4	6.7
IMV		
No	2	3.3
Yes	58	96.7
Sedation		
No	10	16.7
Yes	50	83.3
Vasoactive Agents		
No	19	31.7
Yes	41	68.3
Mode of Discharge		
Wards	27	45
Exitus	33	55
Ventilation at Discharge		
Spontaneous Breathing	2	3.3
Easy Vent	11	18.3
Home Vent	14	23.3
Exitus	33	55
Mortality		
Survived	27	45
Exitus	33	55

IMV: Invazive mechanical ventilation; COPD: Chronic obstructive pulmonary disease.

69.13±15.3. 50% of the patients with new PU were male and 50% were female. There were 39 (65%) patients aged 65 or above and 21 (%35) patients aged under 65. The mean duration of ICU stay was 47.6±29.7 days (median: 39.5). Primary respiratory failure was the cause of ICU admission in 43 (71%) patients. The most frequent comorbidities were hypertension (HT) seen in 58.3% of the patients with PU and Diabetes Mellitus (DM) seen in 58.3%. IMV was necessary for 96.7% of the patients with a mean duration of 42.23±30.82 days. Sedation was administered to 83.3% of the patients and vasoactive agents to 68.3%. Mortality was seen in 55% of the patients, while the remaining 45% were discharged to wards. Of the patients discharged to wards, 3.3% had spontaneous breathing, 18.3% were on easy-vent and 23.3% were on home-vent support. The demographic data, duration and cause of ICU admission, APACHE 2, SAPS 2, NRS 2002 scores, hemoglobin, albumin, total protein, and magnesium levels, comorbidities, need and duration of IMV, need for sedatives and vasoactive agents, mode of discharge, and mortality are given in Table 1.

The time of PU development ranged from 2 to 64 days with a mean duration of 22.03±16.74 days and a median of 14 days. PU stages ranged from 1 to 3 with a median of 2. 51.7% of the PU were stage 2, 46.7% were stage 1, and 1.7% were stage 3. No patient developed a stage 4 PU. The Braden Scale scores at admission ranged from 6 to 14, with a median of 10. 91.4% of patients with a PU had high-risk Braden Scale scores at admission. 55 high-risk patients and 5 medium-risk patients developed PU (Table 2). There were

Table 2. Characteristics of pressure ulcers

	Median (Min-Max)	Mean±SD
Time to PU development (days)	14 (2–64)	22.03±16.74
PU Stage	2 (1–3)	1.55±0.53
Braden Scale score at admission	11 (8–14)	10.95±1.35
Braden Scale score at discharge	10 (6–14)	10±1.89
Total number of PU per patient	2 (1–7)	2.63±1.57
	n	**%**
PU Stage		
1	28	46.7
2	31	51.7
3	1	1.7
Braden Scale Risk Profile		
High risk	55	91.7
Medium risk	5	8.3

PU: Pressure ulcers.

Table 3. Comparison of patient factors by age group

	Age group		p
	<65 years Mean±SD (median)	≥65 years Mean±SD (median)	
Length of stay in the ICU (days)	60.62±33.02 (51)	40.72±25.61 (36)	[1]0.008*
IMV duration (days)	56.1±34.94 (47)	34.77±25.86 (34)	[1]0.010*
APACHE2	16.67±6.41 (14)	19.03±5.79 (19)	[1]0.101
SAPS2	35.52±11.86 (37)	40.41±14.25 (41)	[1]0.201
NRS2002	2.14±1.59 (2)	2.74±1.58 (3)	[1]0.149
Hemoglobin	10.68±2.67	10.18±1.87	[2]0.401
Albumin	3.19±0.8	2.69±0.68	[2]0.014*
Total protein	5.74±0.92	5.42±0.87	[2]0.188
Magnesium	1.93±0.32	1.75±0.35	[2]0.054
	n (%)	n (%)	
Cause of admission			
Primary respiratory failure	14 (66.7)	30 (76.9)	[2]0.741
Secondary respiratory failure	7 (33.3)	9 (23.1)	[2]0.582
Comorbidities			
Dementia	1 (4.8)	8 (20.5)	-
Epilepsy	1 (4.8)	3 (7.7)	-
Chronic Renal Failure	3 (14.3)	8 (20.5)	[3]0.412
Hypertension	9 (42.9)	26 (66.7)	[2]0.131
Cardiac Disease	2 (9.5)	17 (43.6)	[2]0.016*
Diabetes	6 (28.6)	16 (41)	[2]0.500
COPD	5 (23.8)	12 (30.8)	[2]0.787
GIS	1 (4.8)	3 (7.7)	-
Malignancy	1 (4.8)	3 (7.7)	-
Cerebrovascular Event	2 (9.5)	6 (15.4)	[3]0.418
Rheumatoid Arthritis	1 (4.8)	1 (2.6)	-
Thyroid Disease	2 (9.5)	2 (5.1)	-
IMV			
No	1 (4.8)	1 (2.6)	[3]0.581
Yes	20 (95.2)	38 (97.4)	
Sedation			
No	2 (9.5)	8 (20.5)	[3]0.239
Yes	19 (90.5)	31 (79.5)	
Vazoactive agents			
No	8 (38.1)	1128.2)	[2]0.621
Yes	13 (61.9)	28 (71.8)	
Mode of discharge			
Ward	17 (57.1)	15(38.5)	[4]0.264
Exitus	9 (42.9)	24 (61.5)	
Ventilation at discharge			
Spontaneous breathing	0 (0)	2 (5.1)	[4]0.269
Easy Vent	6 (28.6)	5 (12.8)	
Home Vent	6 (28.6)	8 (20.5)	
Exitus	9 (42.9)	24 (61.5)	
Mortalite			
Survived	12 (57.1)	15 (38.5)	[2]0.265
Exitus	9 (42.9)	24 (61.5)	

[1]Mann Whitney U Test; [2]Continuity (Yates) Correction; [3]Fisher's Exact Test; [4]Fisher Freeman Halton Test *P<0.05; [1]Mann whitney U test; [2]Student t test *P<0.05.

Table 4. Characteristics of pressure ulcers by age group

	Age Group		p
	<65 years Mean±SD	≥65 years Mean±SD	
Time to PU development	30.71±19.68 (26)	17.36±12.93 (12)	[1]0.010*
PU Stage	1.62±0.59 (2)	1.51±0.51 (2)	[1]0.546
Braden Scale score at admission	10.52±1.57 (10)	11.18±1.17 (12)	[1]0.054
Braden Scale score at discharge	9.71±1.76 (10)	10.15±1.95 (10)	[1]0.281
Total number of PU per patient	3.43±1.66 (3)	2.21±1.36 (2)	[1]0.002*
	n (%)	n (%)	
PU Stage			
1	9 (42.9)	19 (48.7)	[2]0.462
2	11 (52.4)	20 (51.3)	
3	1 (4.8)	0 (0)	
Braden Scale Risk Profile			
High risk	18 (85.7)	37 (94.9)	[3]0.227
Medium risk	3 (14.3)	2 (5.1)	

[1]Mann Whitney U Test; [2]Fisher Freeman Halton Test; [3]Fisher's Exact Test *p<0.05.

a total of 157 different PU in 60 patients. PU were more frequently located in the sacrum with 29.4% of all ulcers, followed by 17.1% in the heel, and 10.8% in the trochanteric region.

Comparing the two age groups, 65% of patients above the age of 65 developed PU. The mean duration of ICU stay was significantly longer in the older age group (p=0.008). 61.5% of the patients aged 65 or above had mortality. The IMV duration was significantly longer (p=0.010) and cardiac diseases were less common (9.5% vs. 43.6%, p=0.016) in the lower age group (p=0.010). Albumin levels were higher in the younger age group (0.014), while there were no differences in other laboratory parameters. Causes of ICU admission, risk scores at the time of admission, laboratory results, comorbidities, IMV and vasoactive agent requirements, mode of discharge, and mortality are summarized in Table 3.

Comparing PU characteristics between the age groups, the lower age group had a longer mean time of PU development than the older group (p=0.010). The Braden Scale scores and PU stages were similar between the age groups (p>0.05) (Table 4). SAPS 2 score had a negative correlation with time to PU development (r.–0.275, p=0.034). Other scores were not significantly correlated with PU characteristics (Table 5).

IMV had a significant positive correlation with time to PU development (r=0.489, p<0.001) and the number of PU in a patient (r=0.303, p=0.019) (Table 6).

Table 5. Correlation of risk scores and pressure ulcer characteristics

	APACHE2	SAPS2	NRS2002
Time to PU development (days after admission)			
r	–0.226	–0.275	0.189
p	0.083	0.034*	0.149
PU Stage			
r	–0.071	–0.161	–0.078
p	0.590	0.220	0.554
Braden Scale score at admission			
r	0.222	0.089	–0.130
p	0.088	0.501	0.322
Braden Scale score at discharge			
r	–0.200	–0.087	0.086
p	0.125	0.509	0.512
Number of PU per patient			
r	–0.227	–0.186	–0.100
p	0.081	0.156	0.448

Spearman's Rho correlation *p<0.05.

Table 6. Correlation of IMV duration and pressure ulcer characteristics

	IMV duration (days)
Time to PU development	
r	0.489
p	0.000*
PU Stage	
r	–0.025
p	0.852
Braden Scale score at admission	
r	–0.242
p	0.063
Braden Scale score at discharge	
r	0.042
p	0.752
Number of PU per patient	
r	0.303
p	0.019*

Spearman's Rho Correlation *p<0.05 IMV: Invasive mechanical ventilation.

Discussion

The development of PU is one of the most significant factors that complicate the course of ICU patients. PU cause a longer length of stay, reduce the quality of life, and increase health-care costs. Therefore, it is necessary to identify patients with related risk factors and apply preventive measures. In our study, PU was seen with an incidence of 14.5% in a cohort with a mean age of 69.1 years. The mean total length of stay was 47.6 days and the mean time to PU development was 22.03 days. 96.7% of our patients required IMV, 83% required sedation, and 68.3% required the use of vasoactive agents. Patients were predominantly admitted with primary respiratory failure (71.7%), with HT being the most frequent comorbidity. Evaluated with the Braden Scale, 91.7% of the patients were at high risk for PU. The most common stage of the PU was stage 2. The most frequent localization of PU was the sacrum. The mean APACHE 2 score of the patients was 18.2. There was a negative correlation between the SAPS2 score and the time to PU development. Patients under the age of 65 had a longer length of ICU stay, longer IMV duration, and longer time to PU development compared to patients aged 65 or above. There was a significant positive correlation between IMV duration and time to PU development. There was also a significant positive relationship between IMV duration and the number of PU in a patient. Serum albumin levels were higher in the younger age group than in the older age group (p=0.014). NRS 2002 values did not differ significantly between the age groups. Mortality was seen in 55% of the study patients.

Katran et al.[1] investigated 948 patients in a surgical ICU for PU risk factors and found a 20.56% incidence of PU. Borghardt et al.[8] have found a similar incidence of 22% in their prospective study of 77 ICU patients. Fife et al.[9] have studied 186 patients in the neurological ICU and found a PU incidence of 12.4%. Nijs et al.[10] have reported a higher PU incidence in the ICU than in the general wards. We have found a 14.5% incidence of PU in the ICU. Immobility, the use of vasopressors and sedatives, and the presence of mechanical ventilation can contribute to the high incidence of PU among ICU patients.

Ortaç et al.[2] have found a median duration of ICU stay of 37 days in their study on the risk factors for PU. Yepes et al.[11] have investigated the incidence of and risk factors for PU in their study on 150 ICU patients, finding a mean ICU stay of 11.94±16.45. Borghardt et al.[8] have found a mean ICU duration of 31.7 in patients who developed PU with a range of 5 to 110 days. The median duration of ICU stay in patients with newly formed PU was 39.5 (11–147) days. The length of hospital stay is an important risk factor for PU development[3].

Aghazadeh et al.[12] have found 67% of patients with PU to be high risk according to the Braden Scale. 91.7% of the patients in our study were high risk as assessed with the Braden Scale. Preventive measures should be planned for patients with a high Braden Scale score considering that these patients usually require a longer length of stay.

Turgut et al.[13] have reported a median time to PU development of 16.5 days. The median time to PU development was 14.5 days in our study. In their study investigating the risk factors for PU development, Mortada et al.[14] have found 2 PU in most of their study patients.

It is important to treat malnutrition to prevent PU development and ensure skin integrity[15]. Alhaug et al.[16] have investigated hospitalized patients for PU development and nutritional status assessed by NRS 2002 and found PU to be associated with malnutrition. Ortaç et al.[2] have studied risk factors involved in PU development but found no difference in the nutrition and protein intake of patients with and without PU. In our patients, there was no difference in NRS 2002 scores between the two age groups in patients with PU. We did not find a significant relationship between NRS 2002 scores and PU parameters including time to PU development, PU stage, Braden risk scale at admission and discharge, and the number of PUs in a patient.

Schoonhoven et al.[17] have observed 70 PU among 44

patients (21.2%) in their study on 209 patients with 11 patients developing PU in 2 localizations and 6 patients developing PU in more than 2 localizations. Our study patients most frequently had 2 PU. Manzano et al.[18] have found the sacral region to be the most frequent PU site with a rate of 66%. Bereded et al.[5] have also found the most common site to be the sacral region with a rate of 49.1%. The most frequent site for PU was also the sacral region in our study patients.

Aghazadeh et al.[12] have reported Stage 2 PU in 49% and Stage 1 PU in 33% of their 39 patients. In our study, 51.7% of the PU were Stage 2 and 46.7% of the PU were Stage 1. Stage 1 PU are more difficult to identify and can be overlooked, which may have caused the greater number of Stage 2 PU in our study. Katran has investigated PU in different age groups, finding PU in 31.4% of patients aged 75 or above[1]. Amlung et al.[19] have found PU in 21.5% of their ICU patients, concluding that the elderly patients are at a greater risk for PU, and the highest prevalence of PU by age group was seen in patients aged 71–80 with a rate of 29%. Gencer et al.[20] have studied 569 patients with PU, finding a higher rate among patients aged above 65. In our study, the rate of PU development was higher (65%) in patients aged above 65 and 94.9% of the patients in this age group had high-risk Braden Scale scores.

Nijs et al.[10] investigated the risk factors for PU development in the ICU, reporting a positive association with PU and IMV, use of vasoactive agents, history of vascular diseases, and need for hemodialysis. Lindquist et al.[21] have remarked that the use of sedatives reduces the spontaneous movements of the patient which leads to multiple PU at different localization in patients who require sedatives.

Pender and Frazier have shown a propensity for PU in patients under mechanical ventilation[22]. In their study on risk factors for PU in ICU patients under mechanical ventilation, Manzano et al.[18] reported the time under IMV to be a significant independent risk factor for PU and that PU risk increased by 4.2% for each day under IMV. In our study, 96.7% of the patients who developed PU were under IMV and there was a positive correlation between IMV duration and time to PU development ($r=0.489$, $p<0.001$).

In their study on the risk factors for PU in ICU patients, Cox et al.[23] have emphasized the significant risk associated with vasoactive agents such as noradrenaline. In our study, 68.3% of the patients who developed PU were under vasopressors. Ortaç et al.[2] investigated risk factors for PU, reporting a loss of sensation with frequent use of analgesics and sedatives, which increases the risk of decubitus ulcers. 83.3% of the patients in our study were under sedatives. Hypoalbuminemia can arise in ICU patients due to malnutrition, inflammation, and increased catabolism. Hypoalbuminemia results in interstitial edema and thereby hinders wound healing[2]. Fife et al.[9] have found a PU incidence of 21.4% in patients with albumin <35 g/L and 7.7% in patients with normal albumin levels. In our study, we found higher albumin levels in patients aged under 65 than in patients aged 65 or above ($p=0.014$). PU incidence was higher and time to PU development was shorter in our patients aged 65 or above.

The limitations of our study are its retrospective design and the low number of patients.

Conclusion

Our study has found multiple factors that contribute to PU development in ICU patients similar to previous reports in the literature. A comprehensive PU management plan is necessary for the prevention of PU in the ICU.

Ethics Committee Approval: Patients treated in the ICU at Fatih Sultan Mehmet Research and Training Hospital between January 1st, 2019, and June 31st, 2019 were retrospectively investigated. Approval was obtained from the ethics board (17073117-050.06) for this study.

Peer-review: Externally peer-reviewed.

Authorship Contributions: Concept: Y.Y., A.Y.A., Ö.D., Ö.G.İ., S.B.; Design: Y.Y., A.Y.A., Ö.D., Ö.G.İ., S.B.; Data Collection or Processing: Y.Y., A.Y.A., Ö.D., S.B.; Supervision: Y.Y., A.Y.A., Ö.D., Ö.G.İ., S.B.; Fundings: Y.Y., A.Y.A., Ö.D.; Analysis or Interpretation: Y.Y., A.Y.A., Ö.G.İ.; Literature Search: Y.Y., A.Y.A., Ö.D.; Writing: Y.Y., A.Y.A., Ö.G.İ.; Critical Review: Y.Y., A.Y.A.

Conflict of Interest: None declared.

Financial Disclosure: The authors declared that this study received no financial support.

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