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**PRESS: 욕창 재건 수술 대상자 선정을 위한 새로운 위험도 계층화 알고리즘**

(PRESS: A Novel Risk Stratification Algorithm for Surgical Candidate Selection in Pressure Sore Reconstruction)



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**Purpose:** Pressure sore reconstruction is frequently performed in patients with multiple systemic comorbidities and limited functional support. Previous studies have mainly focused on ulcer characteristics or recurrence risk factors, while evaluation of patient-related risk factors remains limited. This study aimed to develop a clinical algorithm incorporating systemic comorbidities, anesthetic risk, cardiopulmonary function, neurologic status, and social support factors to guide surgical candidate selection.

**Methods:** A retrospective review of 87 patients who underwent surgical treatment for pressure sores over a five-year period was performed. Clinical variables including systemic comorbidities, anesthetic risk, functional status, caregiver support, and ulcer severity were analyzed. Based on the distribution of these variables and their association with postoperative outcomes, a scoring system the PRESS (Pressure Reconstruction Eligibility Stratification Score) was developed. Each variable was assigned a weighted score reflecting overall surgical risk. Using the cumulative PRESS scores derived from the patient cohort, a surgical candidate selection algorithm was subsequently constructed in a reverse manner.

**Results:** Reconstruction was primarily performed using V-Y advancement flaps (n=66) and perforator-based fasciocutaneous pedicled flaps (n=21). Unfavorable outcomes occurred in approximately 18% of patients, including recurrence, new pressure sores, reoperation, prolonged ICU care, and mortality. Higher PRESS scores were associated with increased postoperative complications.

**Conclusion:** Unlike previous approaches focusing mainly on wound-related factors, the PRESS score integrates systemic comorbidities, anesthetic risk, functional status, and social support factors to provide a more comprehensive framework for determining surgical eligibility. Further studies with larger cohorts are needed to validate the algorithm and refine the weighting of individual risk factors.

Outcome	n
favorable healing	71
Recurrence	7
New pressure sore	4
Reoperation	2
Prolonged ICU care	1
Mortality	2

Table 1. Postoperative outcomes

Domain	Variable	Criteria	Score
Systemic comorbidities	Major systemic disease	Diabetes mellitus, chronic kidney disease, severe malnutrition, active infection	1
		Any significant systemic disease	2
Anesthetic, cardiopulmonary risk	ASA class	ASA I-II	0
		ASA III	1
		ASA IV or severe cardiopulmonary dysfunction	2
Neurologic, functional status	Mobility status	Ambulatory or partial mobility	0
		Paraplegia	1
		Quadriplegia or complete immobility	2
Social support	Caregiver support	Adequate caregiver support for repositioning and wound care	0
		Unmet caregiver support	1
		No caregiver support	2
		0-5	0
Ulcer severity	WASI score	0-10	1
		11-13	2
		14	2
		15	3

Table 2. Components of the PRESS (Pressure Reconstruction Eligibility Stratification Score), (Total PRESS score: 0-11)

Outcome	Mean PRESS score	Range
Favorable outcome	4.2	1 - 9
Unfavorable outcome	8.8	7 - 11

Table 3. Mean PRESS score according to outcome ; The mean PRESS score was significantly higher in patients with unfavorable outcomes compared with those with favorable outcomes.

PRESS score	Risk group	Surgical recommendation
0 - 5	Low risk	Reconstruction recommended
6 - 8	Moderate risk	Careful patient selection
≥ 9	High risk	Consider conservative management

Table 4. Risk stratification and recommended management according to the PRESS score.