

Oedema as a predictor of pressure ulcer development among inpatients: an analysis using medical big data in a university hospital in Japan

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Fragile skin is one of the major risk factors for skin lesions including pressure ulcers, skin tears, and chronic wounds among lymphoedema patients. Oedema can potentially cause skin fragility, and thus could also be a risk factor for pressure ulcer development. However, there is little evidence based on quantitative assessment to support this relationship. Using medical big data collected from a university hospital, we identified 7,536 pressure ulcer high-risk patients according to criteria based on an incentive system for high-risk pressure ulcer patients in the Japanese medical insurance system. Presence of oedema was confirmed when the patient had pitting oedema in either the lower leg or back. In total, 6.0% of the high-risk patients developed pressure ulcer during their hospitalization. A larger number of patients with oedema than without oedema developed pressure ulcers in the lower leg. Logistic regression analysis was performed and, after adjusting for potential cofounders oedema was shown to be an independent risk factor for pressure ulcer development in the lower leg. This result supports oedema management as an effective preventive measure among high-risk patients.