Psychosocial Factors in Chronic Wound Patients

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Background/Objective: Chronic wound (CW) represents a major burden on the individual patients who are typically challenged with many underlying health related complications. Stress is now recognized as a universal premorbid factor associated with many risk factors of various chronic diseases. This study utilized socio-demographic data of CW patients and analyzed it against salivary cortisol, a known marker of psychosocial stress.

Methods: CW patients were recruited under IRB approved protocol of Indiana University (ClinicalTrials.gov Identifier# NCT03793062). Morning saliva samples were analyzed from 11 patients with CW (56.4±2.8 years). The Patient Health Questionnaire (PHQ-9) and Generalized Anxiety Disorder (GAD-7) assessment were used as screening tools as well as measures of symptom severity for depression (PHQ-9) and different types of anxiety (GAD-7). Human salivary cortisol was measured by ELISA.

Results: The salivary cortisol concentration for CW patients were as follows: those with minimal depression (PHQ-9 score ≤4) had 2.2±0.5 ng/mL; those affected by moderate severe depression (PHQ-9 score >4) showed 1.3±0.3 ng/mL; those with minimal anxiety (GAD-7 score ≤4) was 1.8±0.5 ng/mL; and those with mild to severe anxiety (GAD-7 score >4) had 1.6±0.3 ng/mL. Comparison across race showed that the African American CW patients had higher (2.8±0.5 ng/mL) salivary cortisol levels compared to white CW patients (1.5±0.3 ng/mL).

Conclusion and Impact: These preliminary study results indicated that although higher scales of depression and anxiety do not seem to increase salivary cortisol, it is likely that African American CW patients are subject to higher psychosocial stress compared to Caucasian CW patients. The study of a larger sample size is warranted.