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History of Depression Affects Patients' Depression Scores and Inflammatory Biomarkers in Women Hospitalized for Acute Coronary Syndromes

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A history of major depression is identified as a significant predictor of the development of acute coronary syndromes (ACS); the role of increased inflammatory proteins has been suggested as a possible mechanism to explain the link between depression and ACS. The purpose of this study was to compare, in women with and without reported history of depression, their depression scores and inflammatory biomarkers at three time points (when hospitalized for ACS and 3 and 6 months post-hospitalization). A secondary purpose was to examine whether age and body mass index (BMI) differed by group.

Methodology: Forty-three consecutive economically disadvantaged women with ACS were recruited and divided into two groups based on self-reported prior history of depression. Depression (measured by Beck Depression Inventory [BDI]-II), and inflammatory biomarkers including interleukin (IL)-6 and

high-sensitivity C-reactive protein (hs-CRP) were collected during hospitalization (baseline) and at 3 and 6 months. A linear mixed model was used to compare group differences across time.

Results: When hospitalized for ACS, 44% ($n = 19$) reported a history of depression. These women were significantly ($P < .05$) younger (55 ± 7) and heavier ($\text{BMI} = 37 \pm 13$) than those who did not report a history of depression ($n = 24$) (60 ± 6 , $\text{BMI} = 32 \pm 8$). No significant interaction was observed between depression group and time. However, for BDI-II scores, we found a significant group effect ($F_{1,43.8} = 4.74$, $P = .03$), indicating that those who reported a history of depression were more depressed regardless of time; we also found a significant time effect ($F_{2,77.2} = 3.74$, $P = .02$), indicating an increase in BDI-II scores from baseline to 3 months followed by a decrease to baseline level at 6 months regardless of prior depression history. For IL-6, there was no significant interaction or group effect. However, there was a significant time effect ($F_{2,72} = 10.32$, $P < .01$).

Conclusions: This is the first study to compare the depression scores and inflammatory biomarkers over time between women with and without a prior history of depression. Further research is needed to determine how to identify a subgroup of depressed patients at particularly high risk for cardiac events among patients with a history of cardiovascular disease.