Stress and stressful life events are correlated with both the onset and the course of Anorexia Nervosa (AN); therefore, the study of the psychobiology of the endogenous stress response in patients with AN may be useful to understand the pathophysiological mechanisms underlying this disorder. The salivary cortisol and α-amylase secretions are peripheral markers of the two main components of the endogenous stress response system: the hypothalamic-pituitary-adrenal (HPA) axis and the sympathetic nervous system (SNS). Therefore, we investigated the diurnal secretion of salivary cortisol and α-amylase in 8 symptomatic female patients with restrictive AN and 8 age-matched healthy women. Saliva sample collection started at awakening and went on over the day. Cortisol and α-amylase were assayed by ELISA method. Both patients and controls showed a decrease of salivary α-amylase over 1 h. after awakening with a subsequent gradual increase over the afternoon/evening; however, in AN patients the afternoon/evening increase was significantly lower than in healthy controls with a significantly reduced total diurnal α-amylase secretion. Moreover, as compared to healthy women, AN patients showed significantly higher levels of salivary cortisol at awakening with no significant change in the overall diurnal secretion. These results suggest that in patients with AN the basal activity of the SNS is impaired whereas that of the HPA axis is enhanced, although only after awakening. These findings support a dissociation in the functional status of the two endogenous system of the stress response in the active phase of AN.