Effects of symptomatic severity on elevation of plasma soluble interleukin-2 receptor in bipolar mania

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摘要

Abstract

Background: Circulating soluble interleukin-2 receptors (sIL-2Rs) and soluble interleukin-6 receptors (sIL-6Rs) are stable immune measures. Elevated plasma sIL-2R levels are present in patients with schizophrenia, major depression, and bipolar mania, but not with minor psychiatric disorders. The increased plasma sIL-2R levels are state-dependent in bipolar mania. However, altered production of plasma sIL-6R and the effects of clinical characteristics on plasma sIL-6R and sIL-2R levels in bipolar disorder remains uncertain. Methods: Plasma sIL-2R and sIL-6R levels were measured in 31 Taiwanese bipolar manic (DSM-IV) patients with Young Mania Rating Scale (YMRS) scores of ≥26 as well as during the subsequent remission (YMRS≤12), and equal numbers of age- and gender-matched healthy controls. The relationships of clinical variables such as age, age of onset, smoking, medication status, coexisting psychotic features, number of prior episodes, duration of illness, presence of depression before or following the manic episode, and manic severity to plasma sIL-2R and sIL-6R levels in acute mania along with remission were examined. Results: Plasma sIL-2R but not sIL-6R levels were significantly higher in acute mania than in subsequent remission ($P<0.05$) and controls ($P<0.0005$). In acute mania, the plasma sIL-2R levels were significantly correlated to YMRS scores ($r=0.34$, $P<0.05$). The remaining clinical variables had no effect on plasma sIL-2R and sIL-6R levels in acute mania or remission. There was a significantly positive relationship between the reduction of plasma sIL-2R levels from the acute to follow-up measurements (ΔsIL-2R) and symptomatic improvement of acute mania (ΔYMRS) ($r=0.61$, $P<0.001$). Limitations: Our sample included medicated and unmedicated patients in acute mania. The psychotropic medication may have divergent effects on the plasma sIL-2R levels in acute mania and subsequent remission. Conclusions: Elevation of plasma sIL-2R but not sIL-6R levels in bipolar mania supports the idea that the immunomodulatory mechanism may vary in different psychotic disorders. In contrast to being a trait marker in schizophrenia and depressive disorder, plasma sIL-2R levels may be considered a biological indicator of

manic severity in a group of bipolar affective patients.