

## Significance of Cytokines in the Diagnosis and Prognosis of Oncological Diseases

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### ABSTRACT

Because of earlier detection and more sophisticated therapies, there is a decrease in cancer mortality. However, various unfavorable side effects, such as persistent non-resolving inflammation and weakened immune response, frequently go in tandem with anti-cancer treatments and decreased overall quality of life. In the majority of advanced nations, the leading factor in mortality from cancer has remained cancer. The primary goals of cancer research continue to be enhancing early detection of diverse aggressive cancers and enhancing standardized comprehensive treatment. In these patients, tumor-associated proteins that are relevant clinically are known as tumor markers. Despite the fact that some tumor markers are frequently utilized, they neither show a high level of diagnostic accuracy in all tumors. Promising indicators for cancer staging, prognosis, and therapy response include serum cytokines. More cytokines have indeed been suggested as possible biomarkers in various malignancies recently. In fact, it has been suggested that circulating cytokine studies in conjunction with cancer-specific biomarkers can facilitate and enhance cancer diagnosis and prognosis, especially from blood biopsies that need little to no invasiveness. Furthermore, recent research has revealed that even in people with small tumors, the cytokine signaling patterns of circulating immune cells are disrupted in cancer, and they may also be as useful cancer biomarkers. The purpose of this paper is to evaluate and to explain the possible importance and relevance of a few serum cytokines in the diagnosis and prognosis of oncological illnesses.

**Keywords:** Cytokines, Interleukins, Oncological disease, Diagnosis, Prognosis

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