Procalcitonin – Biochemistry and Clinical Diagnosis

Priv.-Doz. Dr. Michael Meisner, Städtisches Krankenhaus Dresden-Neustadt


At present, Procalcitonin (PCT) is one of the best parameters for the early detection and monitoring of severe bacterial infections and sepsis. More than 1,500 scientific publications on PCT account for the most significant areas of application of this marker.

- PCT helps identify or rule out severe bacterial infections. It provides a relatively high degree of certainty in the differential diagnosis of “sepsis”, “severe sepsis” or “septic shock”.
- In conjunction with other clinical data, PCT indicates whether antibiotic therapy appears to be necessary.
- The course of PCT also reflects the efficacy of antibiotic therapy and indicates when it should be terminated. This allows a "patient-adapted, individual" antibiotic treatment of generally shorter duration than in conventional procedures.
- PCT offers a risk assessment in patients with sepsis in respect of organ failure and mortality, thus high-risk patients are quickly identified to receive optimum treatment.

In order to ensure a qualified application of this parameter in the hospital as well as in the medical practice, fundamental knowledge of PCT is essential. This monograph overviews the most important areas of application and defines the special properties of PCT.