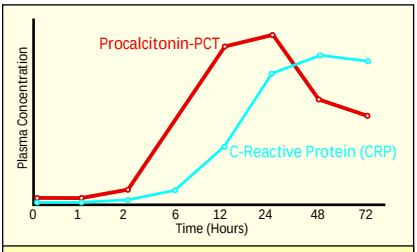
Basic Information on Common Health Challenges

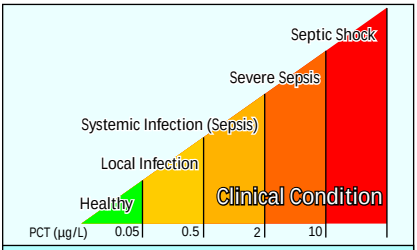
Procalcitonin - PCT for Septicemia

A specific marker of bacterial infection and sepsis

Procalcitonin (PCT) test, results of which are available in **less than an hour** is useful in **differentiating bacterial from viral** infections, **starting antibiotic treatment** in patients suspected to be suffering from bacterial infections, helping in **deciding when to stop antibiotics treatment** and improving patient care by rational use of antibiotics leading to **prevention of antimicrobial resistance.**



Kinetic Profile of Procalcitonin PCT and CRP in Bacterial Infections



PCT increase reflecting continuous development from healthy condition to septic shock

Antibiotic resistance is one of the most urgent global health threats. Each one of us has a role to play in improving antibiotic use to help fight Antibiotic Resistance.

PROCALCITONIN as Early & specific marker for bacterial infection

PCT is detected in the bloodstream within 3 to 6 hours after an infectious challenge. It increases in response to bacterial infections only and not in cases of viral infections. PCT level rises with increasing severity of the infection, and returns to normal as the infection resolves.

PROCALCITONIN as Useful tool to monitor treatment efficacy

PCT has a half-life of 24 hours. In adults, levels decrease daily by around 50% if the bacterial infection is controlled by the immune system supported by effective antibiotic therapy. Non-decreasing levels may point to treatment failure.

PROCALCITONIN in Critical Care : Sepsis

Studies on patients in Intensive Care Units have demonstrated that relative decrease of plasma PCT levels allows a significant reduction in the duration of antibiotic therapy and the length of ICU stay.

PROCALCITONIN for Assessment of Severity and Prognosis

It has been demonstrated that increased PCT values are the best indicator for the severity of infection and organ dysfunction. PCT levels correlate with the severity of the infection and an increase in PCT indicates the progression of sepsis.

PROCALCITONIN and other common markers for inflammation

Procalcitonin has an advantage over established common markers for inflammation i.e. CRP, ESR and Total Leucocyte count due to its better specificity.

Procalcitonin estimation will continue as an important adjunct to comprehensive clinical assessment, especially in patients with multiple co-morbidities and in the ICUs where the timely & complex clinical decision making is required. A higher Negative Predictive Value (NPV) with repeatedly low serum PCT levels may have a better clinical utility.

Use of Procalcitonin guidance strategies decreases antibiotic usage in ICUs and Outpatient settings.