

## Summary

Pentraxin 3 (PTX3) is a newly identified acute phase reactant which shares some structural and some functional properties with CRP, classical short pentraxin. On the other hand, PTX3 displays unique biological properties of its own, including a possible role in the pathogenesis of cardiovascular diseases and in processes accompanying the natural evolution of surgical wounds. Unlike CRP, which is manufactured predominately in the liver, PTX3 is produced especially at sites of tissue damage. PTX3 synthesis is induced by proinflammatory cytokines TNF- $\alpha$  or IL-1 $\beta$  and by microbial wall constituents such as the lipopolysaccharide (LPS). Plasma protein PTX3 concentrations are elevated in a wide range of diseased states, such as in coronary artery disease, in pulmonary infection and acute lung injury, in patients with chronic kidney disease, in patients with depression, during normal pregnancy and preeclampsia, in patients with psoriasis and during cardiac surgery with or without cardiopulmonary bypass. PTX3 was detected using detection set (Alexis Biochemicals, Switzerland) cat.no. ALX-850-299-KI01 for sandwich ELISA application that provided capture monoclonal antibody to PTX3, detection polyclonal antibody to PTX3 and recombinant PTX3 (standard). Goeckerman's therapy of psoriasis is highly efficient in the treatment of psoriasis. GT achieves good clinical response followed by a long-term remission in a majority of patients. The PTX3 production by activated monocyte-macrophage cells in patients with psoriasis is very likely not the single source of PTX3 in these patients. It is well established that endothelial cells contribute substantially to the overall production of PTX3. We compared separately the PTX3 kinetics in „on-pump“ and „off-pump“ patients. We found a significantly higher PTX3 release in patients operated on with the use of cardiopulmonary bypass. These findings may imply different propensity to the inflammatory response in the two groups. In the setting of acute myocardial infarction and other diseases, PTX3 may provide a marker undoubtedly superior in prognostic value to CRP.