

**Long Pentraxin 3: A New, Independent Marker in Acute coronary  
syndrome**

***Thesis***

**For Fulfillment of MSC. Of Internal Medicine**

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## ➤ Introduction:

Many inflammatory mediators are closely-involved in atherosclerosis, plaque formation and rupture .One of the most famous inflammation mediators is C-reactive protein (CRP) which has been widely used as an inflammatory biomarker for predicting the occurrence of future cardiovascular events . CRP and Serum Amyloid P component (SAP) are referred to as classical short pentraxins and are acute phase proteins produced from the liver in response to inflammatory mediators(Pepys and ,Hirschfield ,2003)

Pentraxin 3 (PTX3), a recently identified member of the pentraxin family, is referred to as a long pentraxin and contains a unique PTX3 domain not found in CRP or SAP. In contrast to CRP, PTX3 is produced from the major cell types involved in atherosclerotic lesions, namely vascular endothelial cells, vascular smooth muscle cells, macrophages, and neutrophils in response to inflammatory stimuli .Moreover, CRP is produced by the liver and represents a systemic response to local inflammation, whereas PTX3 is rapidly produced directly from damaged tissues and directly reflects the inflammatory state of the vasculature.

(Suzuki et al,2008)

Pentraxin levels have been reported to be significantly elevated in acute myocardial PTX3 is able to reflect acute coronary syndrome(ACS) condition better than CRP, it is highly possible that PTX3 is a superior biomarker to predict future cardiovascular events. Pentraxin3 level give a strong predictor for 6 month cardiac event in patient hospitalized with unstable angina

(Shigeru et al,2010)

➤ **Aim of the work:**

The aim of the study is to assess the value of PTX3 in acute coronary syndrome.

➤ **Study design:**

Cross sectional study.

➤ **Subject:**

80 patients will be selected from ICU patients from El kasr El Aini hospital presenting with acute coronary syndrome

➤ **Methodology:**

All patients will be subjected to:

- 1.Full medical history.
- 2.Complete physical examination.
- 3.Serum Pentrxin3 level.
- 4.Serum creatinine, estimated glomulular filtration rate.
- 5.Serum highly sensitive CRP.
6. Serum Troponin I

➤ **We exclude the following from our study:**

- 1-Patient with renal impairment creatinine >2mg/dl.
- 2-Malignant diseases,inflammatory, rheumatological disease,diabetes mellitus.

## **References:**

1-Pepys MB,Hirschfield GM.C-reactive protein:A critical update .J Clin invest 2003;111:1805-12.

2-Shigeru M,Junnichi I,Fumihiko K,Atsuhiko K,et al.Pentraxin 3 in unstable angina and non st segment elevation myocardial infarction .Atherosclerosis ,2010;210:220-225.

3-Suzuki S,Takeishi Y,Niizeki T et al.Pentraxin 3 a new marker for vascular inflammation predicts adverse clinical outcomes in patients with heart failure.Am Heart J ,2008;155:75-81.