

# Is Pentraxin- 3 a marker in pathogenesis of obesity

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## OBJECTIVES

Pentraxin 3 (PTX3) is an acute-phase protein that shares structural homology with C-reactive protein (CRP). PTX3 is produced in macrophages, endothelial cells, and adipocytes in response to inflammatory stimuli, whereas hepatocytes are the main source of CRP. Because obesity and metabolic syndrome (MetS) are considered chronic inflammatory states, PTX3 might be involved in the pathogenesis of obesity and MetS as well as CRP. In this study, we aimed to investigate the relationships between PTX3, CRP, neutrophil-to-lymphocyte ratio (NLR) and BMI

## METHODS

86 obese premenopausal women (aged 17-55 years) and 56 women with normal BMI took part in this study. Anthropometric measurements including waist circumferences(WC) were done. Serum concentrations of plasma fasting glucose, insulin, Pentraxin 3, CRP, complete blood count were measured. NLR was calculated. HOMA-R is also calculated to determine insulin resistance.

	Obese	Control	P
PTX3(Pentraxin3) (pg/mL)	0,83	0,86	<b>0,887</b>
CRP (C-reaktive protein) (mg/dL)	0,68	0,38	<b>0,000</b>
Neutrophil lymphocyte ratio	2	2,1	0,492

Table -1: Pentraxin 3, CRP, NLP levels obese and control groups

## RESULTS

PTX3 and NLR were similar in both groups. PTX3 and NLR were also similar in obese patients with or without insulin resistance. CRP is significantly higher in obese patients ( $p < 0.01$ ). It was also significantly higher in insulin resistance obese patients ( $p < 0.01$ ). There was'nt any correlation between BMI or any of the inflamatory markers. Multiple regression analysis showed that PTX3 is correlated with WC.

## CONCLUSIONS

In a study performed in Japan in 2009 ; 226 healthy individuals the average BMI 25.2 + 3.8 kg / m2. In this study, CRP positively correlated with body weight, BMI, waist circumference, while fasting glucose and IL6 ; PTX3 is positively correlated with adiponectin; is negatively correlated with waist circumference, BMI and triglycerides. (1) In our study, , we found a positive correlation CRP with HOMA, fat weight, BMI, body weight, body - arm and leg fat . But there was no relationship with PTX3 .The recovery in 2013 ; In Bruneck and plica work ; KİMT with PTX3 were studied in the general population . PTX3 levels remained similar with KİMT and plaques . Waist / hip ratio and plasma triglyceride levels was negatively correlated PTX3 levels , hypertension, diabetes and dyslipidemia was no connection between the PTX3 . In the linear regression, KİMT was progression prognostic marker for PTX3 levels . (2) We did not find a correlation between PTX3 and NL, CRP with epicardial adipose tissue in our study . Also obese in the literature , osteocalcin and epicardial adipose tissue and inflammatory markers have been no studies evaluating together.

## References

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