A Study On The Association Of C- Reactive Protein With Duration Of Type 2 Diabetes Mellitus

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Sir,

Diabetes is a current global epidemic affecting world population in an alarming rate. It is estimated that about 1 in 11 adults worldwide have diabetes mellitus, 90% of whom have type 2 diabetes mellitus.[1] While Asia witnesses rapidly emerging type 2 diabetes mellitus (T2DM) incidences, India along with China tops the list of countries with type 2 diabetic individuals.[1]

Diabetes is associated with chronic low grade inflammation and studies demonstrated that inflammatory markers including C Reactive Protein (CRP) are elevated in diabetic population.[2]

Sikkim, a north- east Himalayan state records highest percentage (13.67%) of diabetics in India.[3] In this study presence of CRP was observed for T2DM patients in Sikkim.

Individuals with T2DM visiting Central Referral Hospital, Sikkim Manipal Institute of Medical Sciences, Gangtok were recruited for the study. The study protocol was approved by Institutional Ethics Committee. 2 ml of venous blood was taken from the participants. Serum was separated and stored immediately in -20^{0}C freezer. Biochemical details were collected from hospital records. Written consents were obtained from all the participants. Presence of CRP was tested with latex- agglutination method.

In total 35 samples were studied; twenty one were females and fourteen were males. Average age of the participants was 57.3 years for males and 57 years for females. Samples were stratified into two groups, according to the duration of having T2DM, first group having 0 to 10 years of diabetic history and another group having more than 10 years of history. First group constituted twenty patients among whom sixteen were CRP negative and four were positive (20%). In the second group (>10 years of history) six participants were CRP negative while nine were positive (60%) for CRP (Table I). Chi square value showed that CRP was present in significantly higher number of participants with more than 10 years of diabetes history ($p< 0.01$).

Table 1: distribution of participants according to duration of diabetes

Duration of T2DM (Years)	CRP negative	CRP positive	*P* value
0 to 10	16	4	
> 10	6	9	< 0.01

CRP is one of the sensitive physiological markers of subclinical systemic inflammation and associated with hyperglycemia, insulin resistance and overt T2DM.[4]

Marcovecchio *et al*. found high-sensitivity CRP to be significantly correlated with the duration of diabetes in type 1 diabetic individuals.[5] In our study presence of CRP has been found to be related with duration of type 2 diabetes indicating that prolonged exposure to hyperglycemia leads to chronic metabolic derangements that increases CRP production.

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