

**Subjects and methods** 135 patients (Beijing Tong Ren Hospital) were enrolled (male, 96, female, 39; ages  $65 \pm 13$ ). They were divided into three groups: DM patients ( $n=77$ ), IGT patients ( $n=38$ ) and controls ( $n=20$ ). The level of serum YKL-40 was measured by ELLISA. Lipids, HbA<sub>1c</sub>, plasma glucose and serum high-sensitivity C-reactive protein (hs-CRP) were detected by routine methods. Data was performed on High-resolution B-model ultrasound. Data was analysed using SPSS16.

**Results** (1) Serum YKL-40 levels in DM group was higher than that in control group ( $p=0.02$ ). It was higher in IGT group than that in control group, but without statistically significance ( $p=0.08$ ). It was of no significant difference between DM and IGT group ( $p=0.06$ ). (2) IMT was different among three groups ( $p<0.05$ ). (3) The serum YKL-40 level was associated with DM ( $B=-0.08$ ,  $p=0.007$ , OR 0.992). After adjusting age, gender, creatinine and the risk factors of CAD, diabetic family history, hypertension, smoking and hs-CRP, it was still associated with DM ( $B=-0.009$ ,  $p=0.01$ , OR 0.991). (4) The serum YKL-40 level was associated with DM combined with atherosclerosis ( $B=-277$ ,  $p=0.026$ , OR 1.319). (5) There was a notable correlation between the serum YKL-40 levels and IGT with cardiovascular risks ( $X^2=6.96$ ,  $p=0.016$ ).

**Conclusions** (1) The level of serum YKL-40 was increased in patients with DM and IGT. (2) The level of serum YKL-40 was associated with diabetes. (3) The level of serum YKL-40 may be used as an independent predicted factor for cardiovascular risk in IGT.

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# STUDY OF SERUM YKL-40 LEVEL AND IMPAIRED GLUCOSE TOLERANCE COMBINED WITH CARDIOVASCULAR DISEASES RISK

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**Background and Objective** Diabetes has become a common healthy problem in the world, which is an autoimmune disease mediated by inflammatory cytokine. Inflammation plays an important role in the pathogenesis of diabetes and macrovascular complications. Chitinase-3-like protein-1 (YKL-40) is a new inflammatory factor, which can influence the level of other inflammatory markers and related to the development of cardiovascular diseases. This study aims to investigate the level of YKL-40 in patients with diabetes and impaired glucose tolerance. Correlation between YKL-40 and blood glucose, lipids, high sensitivity C-reactive protein, IMT was compared.