Subjects with type 2 diabetes have a high risk of developing macro and micro vascular complications like diabetic retinopathy. Low serum bilirubin concentration in type 2 diabetic patients can result in increased risk of diabetic retinopathy. The present study was aimed to investigate the association between the prevalence of Diabetic Retinopathy and different levels of serum total bilirubin in a Chinese population. A population-based cross-sectional study was designed. Data from total of 1761 diabetic patients were collected. Fundus photographs were taken and analyzed to confirm the presence and severity of diabetic retinopathy. Serum total bilirubin levels and other risk factors for diabetic retinopathy were estimated. The study subjects were divided into quartiles on the basis of serum total bilirubin concentration (quartile 1 = <0.60 mg/dl, quartile 2 = 0.60-0.76 mg/dl, quartile 3 = 0.77-0.99 mg/dl, and quartile 4 = >0.99 mg/dl). Logistic regression models were used to see the association of total bilirubin and prevalence of diabetic retinopathy. The prevalence rate of diabetic retinopathy was 9.6% in this population. The prevalence of diabetic retinopathy was significantly lower in quartile 4 with highest levels of bilirubin (>0.99 mg/dl) as compared to the other three quartiles (P for trend = 0.004). The inverse association between bilirubin levels and diabetic retinopathy was consistent even after adjustment of several risk factors for diabetic retinopathy. In conclusion, high bilirubin levels may have protective effects on prevalence of micro-vascular complications of diabetes like diabetic retinopathy.