Background: The incidence of atherosclerosis (As) in Takayasu's arteritis (TAK) was significantly higher than that of other people of the same age and gender. The incidence of carotid artery plaque in TAK patients was 27%, while only 2% of the age and sex matched controls were in the control group. Autopsy confirmed that atherosclerotic lesions were found in arterial wall in TAK. Inflammation of the vascular wall may promote As in TAK, which may be related to the disorder of lipid metabolism disorder, which accelerates the development of As. The ratio of low-density lipoprotein cholesterol (LDL-C)/high-density lipoprotein cholesterol (HDL-C) predicted As progression better that LDL-C or HDL-C alone. Higher triglyceride (TG)/HDL-C ratio was found to be associated with presence of endothelial dysfunction and As.

Objectives: The aim of this study is to investigate the clinical manifestations, serological and imaging features in TAK with As and non-As, to find the risk factors of As in those patients.

Methods: A retrospectively study of 105 patients in TAK were divided into 2 groups according to with or without As. We compared the difference of general information, traditional risk factors, disease activities and imaging features between 2 groups. Logistic model was used to determine the risk factors of As in TAK patients.

Results: In this study, 53 patients (50.48%) with TAK were had As. The duration of disease in TAK patients with As significantly longer than non-As group (p=0.011). LDL-C/HDL-C ratio in TAK with As significantly higher than non-As (p=0.025). Serum level of CRP in TAK with As patients lower than non-As patients. In disease activities, there were no differences in Kerr score and ITAS between 2 groups. The traditional risk factors of As in two groups were compared, hypertension (p=0.001) and family history of As (p=0.012) were all higher in As group than non-As group. In As group, most common angiographic type was Numano type V, which was higher than that in non-As patients (58.49% vs 38.66% p=0.040). Logistic regression showed the age above 40 years old is 5.196 times higher than the patients who are under 40 (p=0.002,95%CI:1.843–14.648) to develop to As. The incidence of As increased by 2.945 times every 5 years (p=0.003,95%CI:1.431–6.062). History of hypertension has more risk to As (p=0.029, OR=4.089,95%CI:1.153–14.494). More important, the LDL-C/HDL-C ratio was above the predicted cut-off value 3.038, the incidence of As increased by 8.515 times (p=0.023,95%CI:1.343–53.976), the TG/HDL-C ratio was above predicted 0.909 cut-off value, the incidence of As increased by 3.725 times (p=0.024,95%CI:1.185–11.711).

Conclusions: Our study showed the duration of disease and LDL-C/HDL-C more higher in TAK patients with As than without As. Age >40 years old, the duration of disease, hypertension, TG/HDL-C and LDL-C/HDL-C ratios were the risk factors of As in TAK patients.

References: