carotid elasticity and is an efficient method to evaluate artery elasticity.

GW23-e1308

ASSESSMENT OF CAROTID ARTERY ELASTICITY IN THE NORMAL POPULATION BY TWO-DIMENSIONAL SPECKLE TRACKING IMAGING

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Objectives To investigate the value of two-dimensional speckle tracking imaging (2D-STI) in the assessment of carotid circumferential strain of the normal population.

Methods Totally 140 healthy people (age 20–95 years old), according to age, divided into seven groups (the 1 group: 20 to 29, the 2 group: 30 to 39, the 3 group: 40 to 49, the 4 group: 50 to 59, the 5 group: 60 to 69, the 6 group: 70 to 79, the 7 group: older than 79, each group male and female, respectively 10). High frame rate dynamic 2D images were recorded from short axis view at the left common carotid artery below the sinus 1.5–2.0 cm application of Esaote My Lab 90. The global peak circumferential strain ($\square$) was measured with 2D-STI; the application QIMT and QAS measuring Carotid Intima-Media Thickness (IMT), distensibility coefficient (DC), compliance coefficient (CC), stiffness parameter (α, β) and pulse wave velocity (PWVβ). All parameters were compared between groups.

Results From the 1 group to 7 group $\square$, DC, CC decreases gradually, while the IMT, α, β, PWVβ gradually increase, however, the trends of the 5 group to 7 group are slow. The comparison between the 1 group and the 3 group to the 7 group all parameters differences were statistically significant ($p<0.05$), The comparison between the 2 group and the 3 group to the 7 group all parameters differences were statistically significant ($p <0.05$), the comparison between the 3 group and the 5 group to the 7 group part of the parameters differences were statistically significant ($p<0.05$), The comparison between the 4 group and the 6 group to the 7 group part of parameters differences were statistically significant ($p<0.05$), The comparison between the 5 group and the 6 group, the 7 group only IMT differences were statistically significant ($p<0.05$), compared with the values of the 6 group and the 7 group, there was no significant difference ($p>0.05$).

Conclusions The carotid artery $\square$, IMT, the elastic parameters of the healthy population increased with age, 2D-STI can observe