[gw22-e1021] **AGING EXAGGERATED PROLIFERATION OF VASCULAR SMOOTH MUSCLE CELLS IS RELATED TO ATTENUATION OF JAGGED1 EXPRESSION IN ENDOTHELIAL CELLS**

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Methods and Results Male Sprague–Dawley rats at 3 (young) and 22 (old) month-old were subjected to a balloon catheter injury in the thoracic aorta. After 4 weeks, the neointimal formation in the injured artery of old rats was more than that of young rats. Compared to the young rats, the increase in Jagged1 expression in the endothelium of old rats after the injury was delayed, weakened, and shortened, suggesting an impaired response of Jagged1 to the injury. In contrast, the increase in the expression of proliferating cell nuclear antigen in the neointima was more significant and maintained longer in old rats than in the young ones. Moreover, the expression of Jagged1 in the cultured arterial endothelial cells (EC) of old animals was less than those of the young ones, which promoted the PDGF-induced growth and migration of the co-cultured VSMC. Knocking down of Jagged1 expression arrested the growth and induced the premature senescence of cultured aortic EC, however, it increased the proliferation and stimulated the transition of cultured VSMC from contractile to synthetic phenotype. Finally, under the co-culture conditions, knocking down of Jagged1 expression in EC induced increases in the proliferation and phenotype transition of co-cultured VSMC.