1 Supporting information

Groups	Grade 0	Grade 1	Grade 2	Grade 3	Kruskal-Wallis test
Sham	10	0	0	0	$P \le 0.001 (H =$
IA	0	1	6	3	22.26)
IA + erlotinib	3	5	2	0	

**Table S1.** Incidence of IA in each group according to statistical analysis



Figure S1. Tissue samples were from unruptured human IA (left) and human STA
(right). The tissue sections were stained for α-SMA (brown), MMP-2 (brown) and
TNF-α (brown) by IHC. Representative images were shown.



Figure S2. EGFR activation and downstream signals of VSMCs in *in vitro* co-culture 2 cell models with stimulation of hemodynamics. A: Expression levels of p-EGFR, 3 EGFR, p-Erk1/2, Erk1/2, p-p38MAPK, p38MAPK, α-SMA, MMP-2 and MMP-9 4 with the extension of stimulation time and strength of WSS. (1:  $0 \text{ dyn/cm}^2 + 24\text{h}$ ; 2: 0 5  $dyn/cm^2 + 48h$ ; 3: 0 dyn/cm<sup>2</sup> + 72h; 4: 4 dyn/cm<sup>2</sup> + 24h; 5: 4 dyn/cm<sup>2</sup> + 48h; 6: 4 6  $dyn/cm^2 + 72h$ ; 7: 12  $dyn/cm^2 + 24h$ ; 8: 12  $dyn/cm^2 + 48h$ ; 9: 12 $dyn/cm^2 + 72h$ ; 10: 7  $36 \text{ dyn/cm}^2 + 24\text{h}; 11: 36 \text{ dyn/cm}^2 + 48\text{h}; 12: 36 \text{ dyn/cm}^2 + 72\text{h}).$  **B**, **C**, and **D**: The 8 expression levels of p-EGFR, p-Erk and p-p38 MAPK were quantified and 9 10 normalized by their unphosphorylated forms. E, F and G: The expression of  $\alpha$ -SMA, MMP-2 and MMP-9 were quantified and normalized by  $\beta$ -actin. Data are represented 11 12 as the mean  $\pm$  SD. 13

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- 2 Figure S3. Protein expression of p-EGFR, EGFR, α-SMA and MMP-2 in VSMCs
- 3 stimulated by TNF- $\alpha$  (20 ng/ $\mu$ l) with different concentrations and TNF- $\alpha$  antibody (1
- 4  $\mu g/\mu l$ ) analyzed by western blot.

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