SUPPLEMENTAL FIGURES

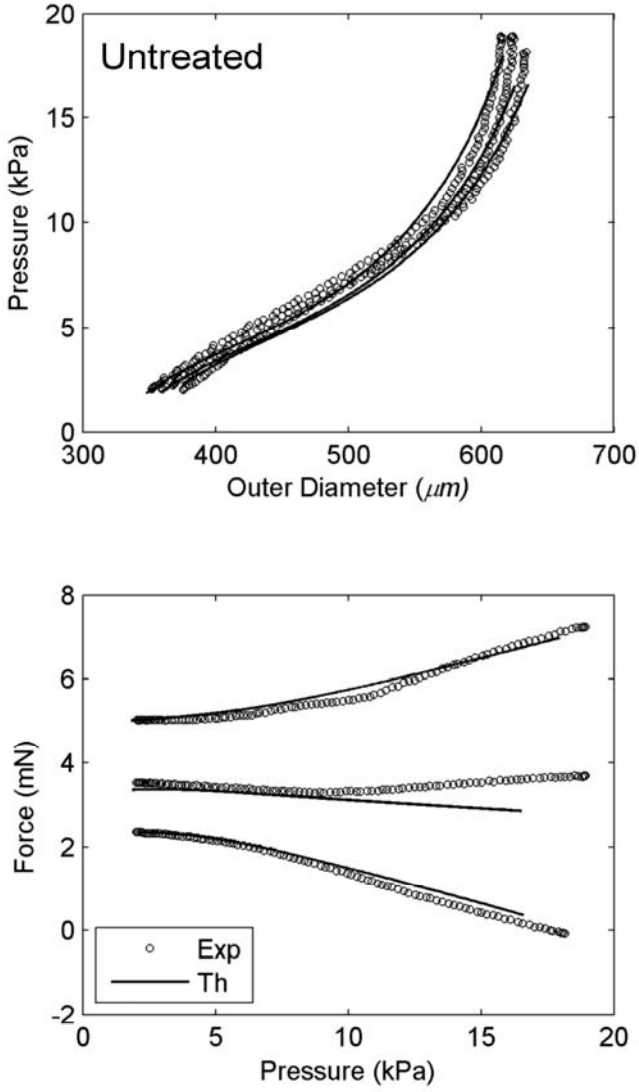

Figure S1. Fit to pressure – diameter (top) and axial force – pressure (bottom) data from a representative mgR/mgR carotid artery before exposure to elastase. The model fits well biaxial mechanical data from tests performed at three different axial extensions.

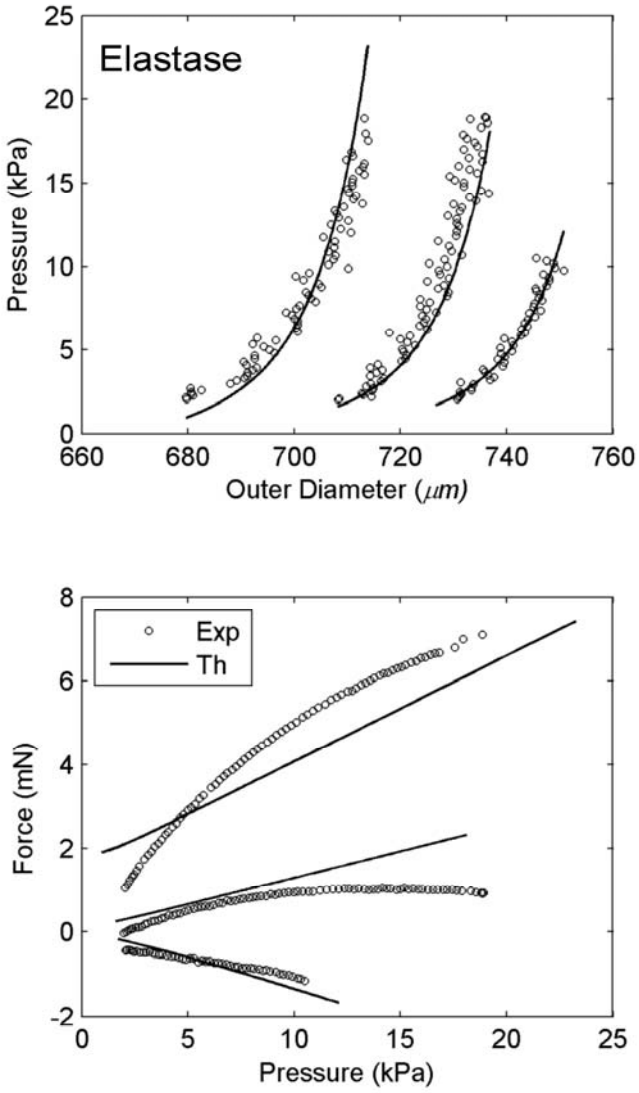

Figure S2. Fit to pressure – diameter (top) and axial force – pressure (bottom) data from a representative mgR/mgR carotid artery after exposure to elastase. Note the significant overshoot in certain pressure values due to the data points that fall on the right-hand side of the stiff responses estimated by the model. Moreover, note that the model does not fit well axial force data from elastase-treated carotids. However, it is remarkable that despite the use of elastase, the carotid still exhibited a nearly constant force upon pressurization when held at the stretch corresponding to the cross-over point in the force – extension data (Figure 3 in the manuscript).

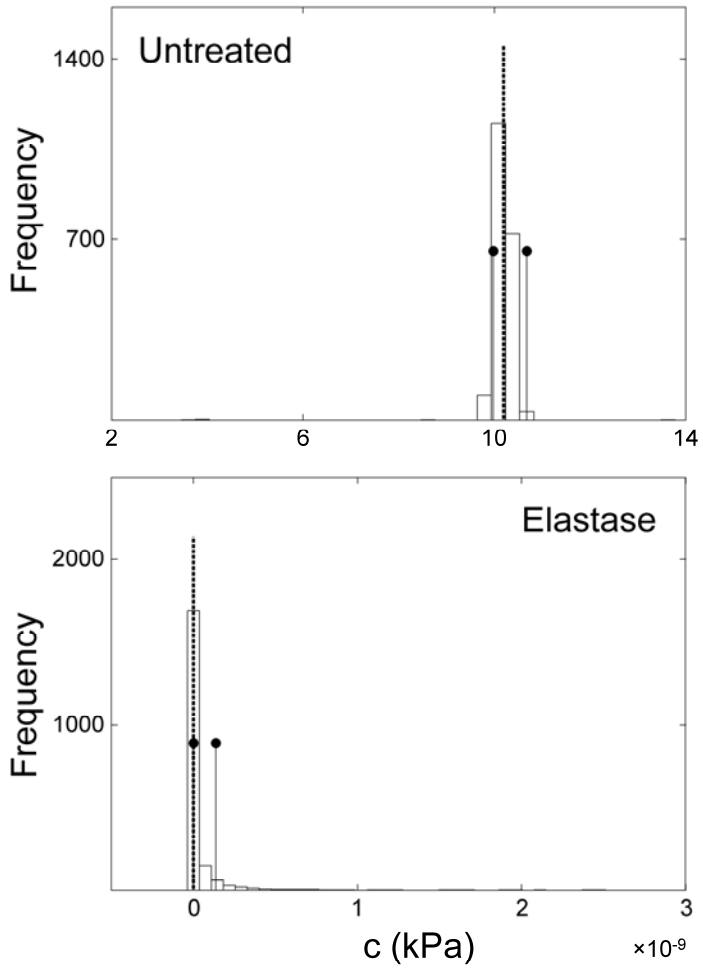

Figure S3. Illustrative results from 2000 bootstrap replications of the biaxial data. Histograms of estimated values of the neo-Hookean parameter *c* are compared for a representative mgR/mgR carotid artery before (top) and after (bottom) treatment with elastase. The vertical, dashed line indicates the parameter value obtained from the initial fit, while the paired stems indicate the 95% BCa confidence interval.