making. Myocardial fractional flow reserve (FFR\textsubscript{myo}) is a special index of the functional severity of coronary stenosis. Although the application of FFR\textsubscript{myo} to assess intermediate coronary lesion is widely performed in some centers in developed countries, its use in China was lagged. Because it is relatively expensive to measure FFR\textsubscript{myo}, it will be beneficial to save the expenses and to shorten operation time if CAG and IVUS criteria could be clinically used as tools to discriminate functional significance of intermediate stenosis.

Materials and Methods In 46 lesions of intermediate severity (eg, 40%–60% diameter stenosis) we assessed 1. by pressure wire: myocardial fractional flow reserve (FFR\textsubscript{myo} index of functional significance), and 2. by IVUS: minimal lumen cross-sectional area (MLA) and percent area stenosis at the lesion site. Receiver operating characteristic (ROC) curve analysis was performed to establish the best cut-off values of IVUS indexes (ie, MLA and percent area stenosis) that were most predictive of FFR\textsubscript{myo}<0.75.

Results FFR\textsubscript{myo} in 46 lesions of angiographic intermediate stenosis (49±11%) was significantly lower than it was in angiographic normal artery (0.83±0.15 vs 0.97±0.02, p<0.01). Fourteen lesions (30%) were functionally critical (eg, FFR\textsubscript{myo}<0.75). By regression analysis, percent area stenosis had a significant inverse correlation with FFR\textsubscript{myo} (r=−0.68, p<0.01). MLA showed a significant positive relation with FFR\textsubscript{myo} (r=0.65, p<0.01). By ROC analysis, we identified an IVUS area stenosis >65% (sensitivity 100%, specificity 72%), a minimal lumen cross-sectional area <4 mm\textsuperscript{2} (sensitivity 93%, specificity 77%) to be the best cut-off values to fit with FFR\textsubscript{myo}<0.75.

Conclusion IVUS area stenosis >65% and minimal lumen cross-sectional area <4 mm\textsuperscript{2} reliably identified functionally critical intermediate coronary stenosis.