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THE APPLICATION OF THE JAPANESE CHRONIC TOTAL OCCLUSION (J-CTO) SCORE TO TAILOR APPROACHES AND PREDICT SUCCESS IN CHRONIC TOTAL OCCLUSION PERCUTANEOUS CORONARY INTERVENTIONS (CTO PCI)

Poster Contributions
Poster Sessions, Expo North
Saturday, March 09, 2013, 3:45 p.m.-4:30 p.m.

Session Title: Chronic Total Occlusions
Abstract Category: 44. TCT@ACC-i2: Coronary Intervention, CTO
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Background: In the J-CTO model, angiographic variables of blunt entry, calcification, lesion length >20mm, angle>45o and previous PCI attempt are independent predictors of CTO PCI failure. While the use of bilateral injections and retrograde approach during CTO PCI remain operator dependent, these strategies have been shown to improve success rates but can increase the risk of complications. We evaluate the validity of the J-CTO score and its association with CTO PCI approach at our centre.

Method: Lesion characteristics of 191 CTOs were collected from 189 patients following angiographic review. Data on PCI procedure was collected from internal database. Independent predictors of failure as per the J-CTO score were each allocated a point. Guidewire (GW) manipulation time was measured from the wire exiting the guide catheter until the CTO was crossed in successful PCI.

Result: PCI was successful in 147 lesions. Mean J-CTO score in the successful cohort was lower as compared to the unsuccessful one (1.6 vs 2.0, p = 0.009). Of the successful PCI group, J-CTO score distribution of 0 to 4 were 14.9%, 34.7%, 30.6%, 17.7% and 2.1%. Mean GW manipulation time before crossing was shorter in the lowest J-CTO score group. Bilateral injections and/or retrograde approaches were used in CTO with higher J-CTO scores.

Conclusion: Application of J-CTO scoring system predicts success but more importantly can assist operators in tailoring their strategies when using techniques of bilateral injections and/or retrograde approach.

Associations between J-CTO scores and CTO-PCI

J-CTO Score	0	1	2	3	4	p value
Guide wire manipulation time before crossing CTO(Minutes)	16.1	20.9	22.1	30.4	49.7	0.138
Bilateral injections(%)	18.1	29.4	46.7	53.8	66.7	0.033
Retrograde approach for CTO-PCI(%)	3.9	4.5	11.1	34.6	66.7	<0.0001