Use of the Venture® Wire Control Catheter to Facilitate Intervention for Complex Lesion


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Cheonan Hospital
Clinical history (1)

- A 75-year-old male
- Past history
  - Hypertension
- Chief complaint:
  - Resting dyspnea (grade IV)
  - Chest discomfort
  - 1 day ago
Physical exam

- **BP**: 110/60 mmHg
- **HR**: 95 beats per minute
- **Chest auscultation**: Rale (+) without wheezing
Lab finding

- AST/ALT: 35/29 (U/L)
- BUN/Cr: 28.3/0.9 (mg/dl)
- Na/K/Cl: 138/104/4.1 (mEq/L)
- Glucose: 198 (mg/dl)
- Troponin T: 3.02 ng/mL
- NT-ProBNP: 5201.0 pg/mL
- HbA1C: 6.1%
- LDL Cholesterol: 110 (mg/dL)
Chest X-ray

At admission

After 24hrs
Echocardiogram

Severe Hypokinesia at Ant, Lat, PL Wall, LVEF 33%
Coronary angiography

Severe diffuse stenosis at proxLAD, Moderate to severe diffuse stenosis at proxRI, and severe tandem eccentric stenosis at LCX ostium.
Severe diffuse eccentric stenosis at mid-RCA,

Severe tandem eccentric stenosis at LM ostium.
Using the right femoral approach, an 8Fr JL4 side hole guiding catheter was engaged into the LM.
After a 0.014 inch BMW, ATW, and Runthrough wires were inserted into the LAD, diagonal branch, and RI, respectively, the wire passage into LCX ostium was tried.
Initial attempts were made with BMW, Runthrough, and FielderFc wire during one hour. Despite multiple attempts, the LCX could not be cannulated with an unsupported wire, as the wires repeatedly prolapsed distally into the RI.
The failure of wire cannulation into LCX was associated with the lack of back-up support and the unsuitable, severe angulation.
At this point, Venture catheter was advanced over the guidewire.
The distal tip of Venture catheter was directed toward the LCx ostial lesion, and the tip was deflected to point toward the origin of the tight stenosis. (white arrow)
A 0.014 Runthrough guidewire was advanced through the Venture catheter tip.
After removal of the Venture catheter, LCX lesion was predilated with Maverick 2.0x20mm

Element stent 2.5x24mm was implanted at prox–LCX
Stent deployment with Element 2.5x16mm (16/15) was done at mid-LAD

Stent deployment with Element 3.0x12mm (14/15) was done at prox-LAD to distal-LM
Stent deployment with Element 4.0x8mm was done at LM
After kissing ballooning was attempted using Non-compliant balloon, a good angiographic result was obtained.
Venture™ wire control catheter
CASE Reports, as follows:

1. Use of the venture wire control catheter for accessing side branches during provisional stenting: an option for bifurcations with an unfavorable anatomy.
   - Ojeda E, Pan M, Mazuelos F, Romero M, Segura J, Novo V, Crespin M, Buñez de Lezo J.
   - Related citations Item in clipboard

2. Case series have reported ‘Venture wire control catheter is very useful and safe at complex lesion, such as CTO, severe tortuous lesion’.

   - PMID: 18810795 [PubMed - indexed for MEDLINE]
   - Related citations Item in clipboard

   - PMID: 18319704 [PubMed - indexed for MEDLINE]
   - Related citations Item in clipboard

5. Venture wire control catheter.
   - McClure SJ, Wahr DW, Webb JG.
   - PMID: 16206224 [PubMed - indexed for MEDLINE]
   - Related citations Item in clipboard
Venture wire control catheter (Velocimed, Minneapolis, MN)

This device is a low-profile, 6 Fr-compatible, flexible, torqueable, support catheter with a mechanically activated deflectable atraumatic tip.
1. Severe angulated lesion at diagonal branch
2. Severe angulated lesion at LCx ostium
3. Stumpless CTO lesion of mid-LAD