A Trial of Telmisartan Prevention of Cardiovascular Diseases (ATTEMPT-CVD)
The Large Biomarkers Study with 1228 patients

Hisao Ogawa, Hirofumi Soejima, Kunihiko Matsui, Shokei Kim-Mitsuyama, Osamu Yasuda, Koichi Node, Megumi Yamamuro, Eiichiro Yamamoto, Keiichiro Kataoka, Hideaki Jinnouchi, Taiji Sekigami, for the ATTEMPT-CVD Investigators
DECLARATION OF INTEREST

- Research contracts
Study design

Multicenter, Prospective, Randomized, Open-Label, Active-controlled, Blinded End-Point Assessment

Trial Registration: Clinicaltrials.gov Identifier: NCT01075698
Endpoint

◆ Primary efficacy endpoints:
  Changes in UACR and plasma BNP levels from baseline

◆ Secondary efficacy endpoints:
  – Changes in other biomarkers
    ✓ Serum hsCRP
    ✓ Urinary 8-OHdG
    ✓ Serum adiponectin
    ✓ High-molecular weight adiponectin
    ✓ eGFR
  – Time until occurrence of cardiovascular composite events, defined as,
    ✓ Cerebral events
    ✓ Coronary events
    ✓ Cardiac events
    ✓ Aortic/peripheral arterial events
    ✓ Complication of diabetes
    ✓ Aggravation of renal function
Changes of UACR and Plasma BNP Levels

**UACR**
- ARB Group: 615, 579, 552, 522, 487
- Non-ARB Group: 613, 584, 567, 529, 498

**Plasma BNP**
- ARB Group: 615, 579, 552, 522, 487
- Non-ARB Group: 613, 584, 567, 529, 498

P<0.0001 for UACR
P=0.044 for Plasma BNP
Kaplan-Meier Curve of Composite Cardiovascular Events

P = 0.14

Non-ARB group

ARB group

<table>
<thead>
<tr>
<th>Number at risk</th>
<th>ARB</th>
<th>Non-ARB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of days</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>608</td>
<td>605</td>
</tr>
<tr>
<td>200</td>
<td>563</td>
<td>567</td>
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<tr>
<td>400</td>
<td>532</td>
<td>541</td>
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<tr>
<td>600</td>
<td>517</td>
<td>520</td>
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<tr>
<td>800</td>
<td>492</td>
<td>488</td>
</tr>
<tr>
<td>1000</td>
<td>475</td>
<td>477</td>
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</tbody>
</table>
Examination of prognostic factors for CV events
- Multivariable logistic regression analysis -

<table>
<thead>
<tr>
<th>Selected Factors</th>
<th>Odds Ratio</th>
<th>95% CI</th>
<th>P -Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>0.57</td>
<td>0.34, 0.96</td>
<td>0.03</td>
</tr>
<tr>
<td>Age</td>
<td>1.84</td>
<td>1.06, 3.17</td>
<td>0.03</td>
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<tr>
<td>Diabetes</td>
<td>2.86</td>
<td>1.56, 5.24</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>History of cardiovascular events</td>
<td>2.03</td>
<td>1.16, 3.54</td>
<td>0.01</td>
</tr>
<tr>
<td>Plasma BNP levels (per 10 pg/ml)</td>
<td>1.05*</td>
<td>1.01, 1.08</td>
<td>0.01</td>
</tr>
<tr>
<td>UACR (per 10 mg/g·Cr)</td>
<td>1.09**</td>
<td>1.005, 1.012</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

CV: Cardiovasclar, CI: Confidence Interval
*1.00(1.00,1.01) per pg/ml, ** 1.00(1.00,1.00) per mg/g·Cr
Conclusion

ARB therapy improved UACR and BNP. UACR and BNP were independently correlated with the occurrence of cardiovascular events.