**Fig. 1**

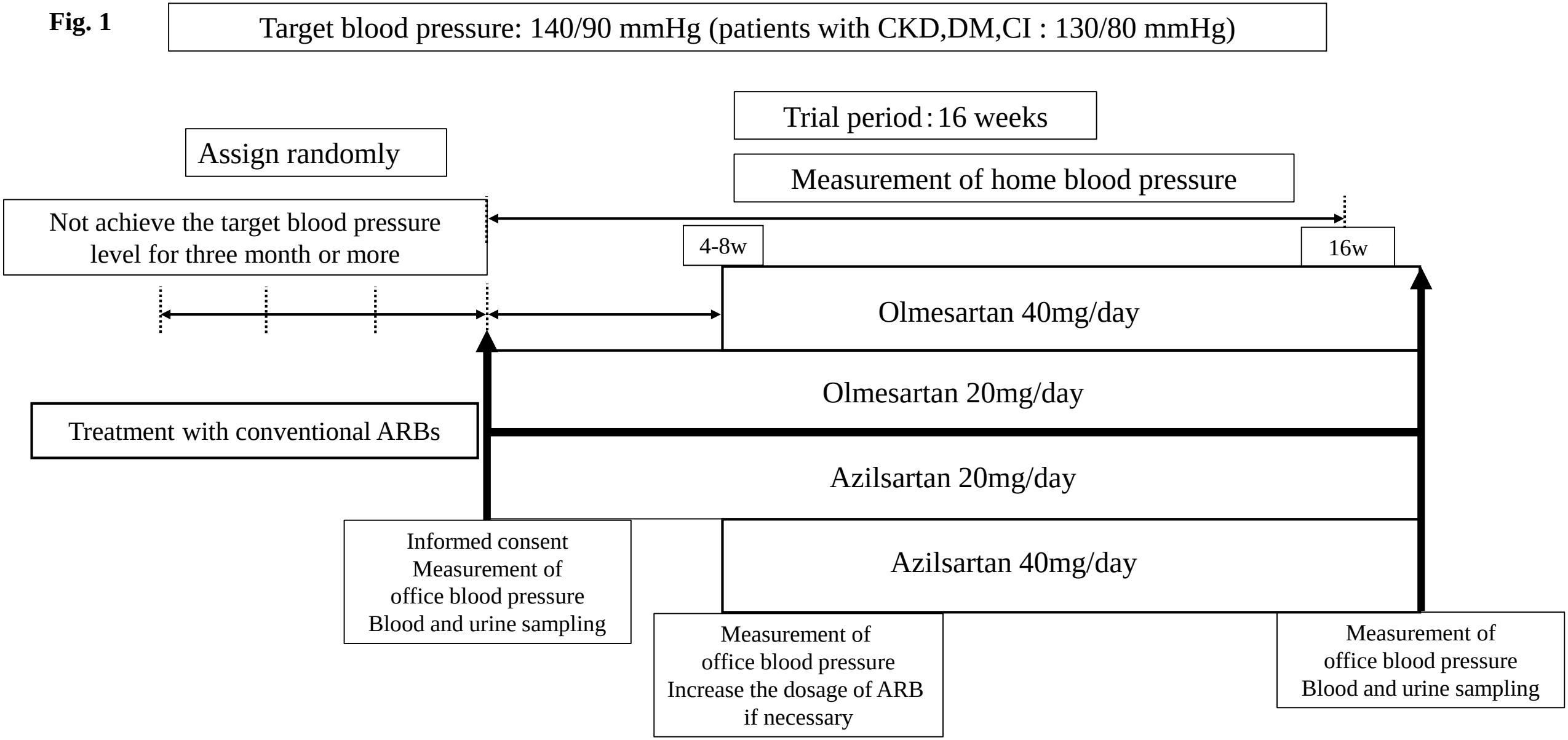
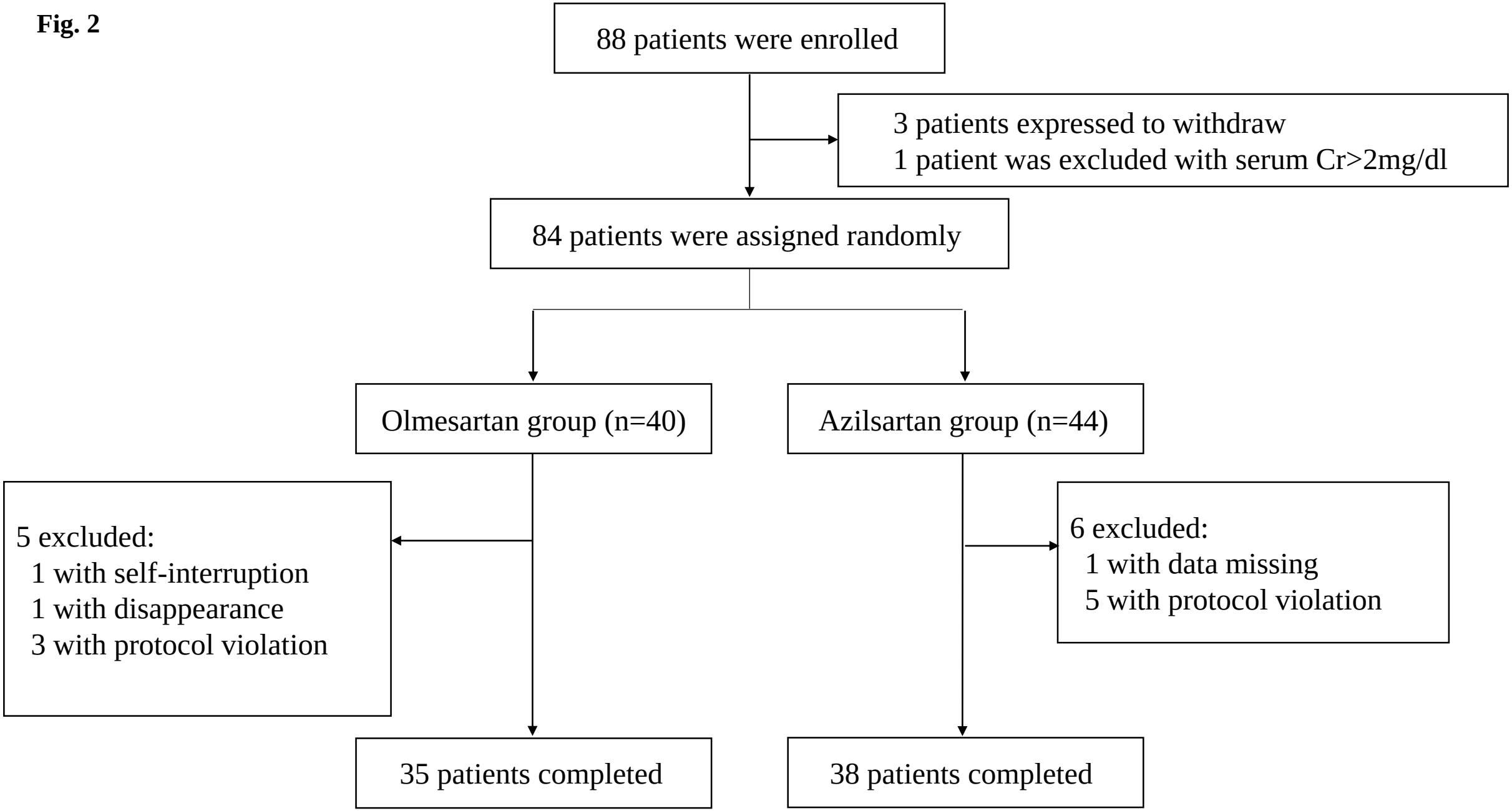

Target blood pressure: 140/90 mmHg (patients with CKD,DM,CI : 130/80 mmHg)
Trial period : 16 weeks
Assign randomly
Measurement of home blood pressure
Not achieve the target blood pressure level for three month or more
4-8w
16w
Olmesartan 40mg/day
Olmesartan 20mg/day
Treatment with conventional ARBs
Azilsartan 20mg/day
Azilsartan 40mg/day
Informed consent
Measurement of office blood pressure
Blood and urine sampling
Measurement of office blood pressure
Increase the dosage of ARB if necessary
Measurement of office blood pressure
Blood and urine sampling

**Fig. 2**


88 patients were enrolled
3 patients expressed to withdraw
1 patient was excluded with serum Cr>2mg/dl
84 patients were assigned randomly
Olmesartan group (n=40)
Azilsartan group (n=44)
5 excluded:
1 with self-interruption
1 with disappearance
3 with protocol violation
6 excluded:
1 with data missing
5 with protocol violation
35 patients completed
38 patients completed

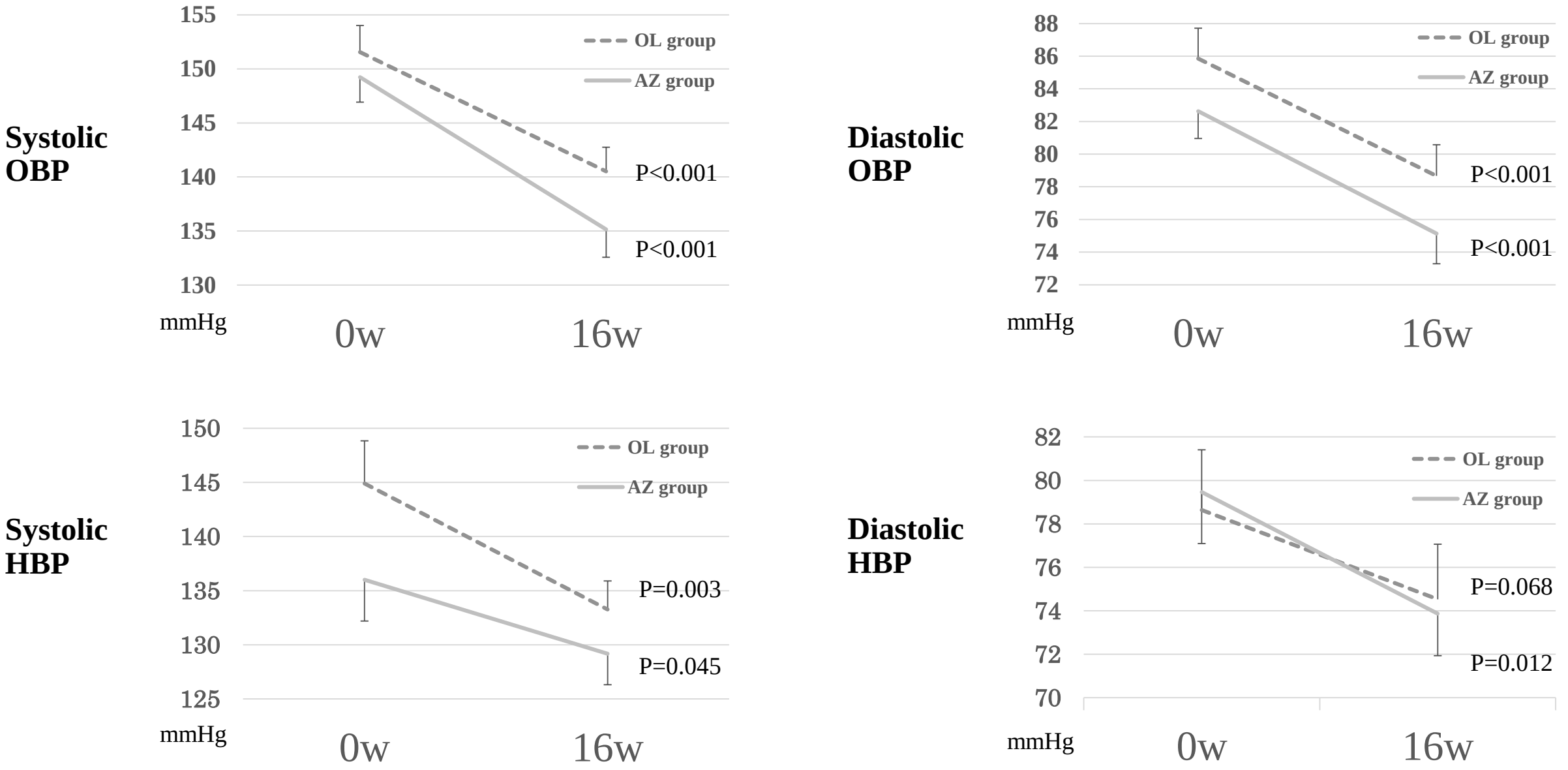
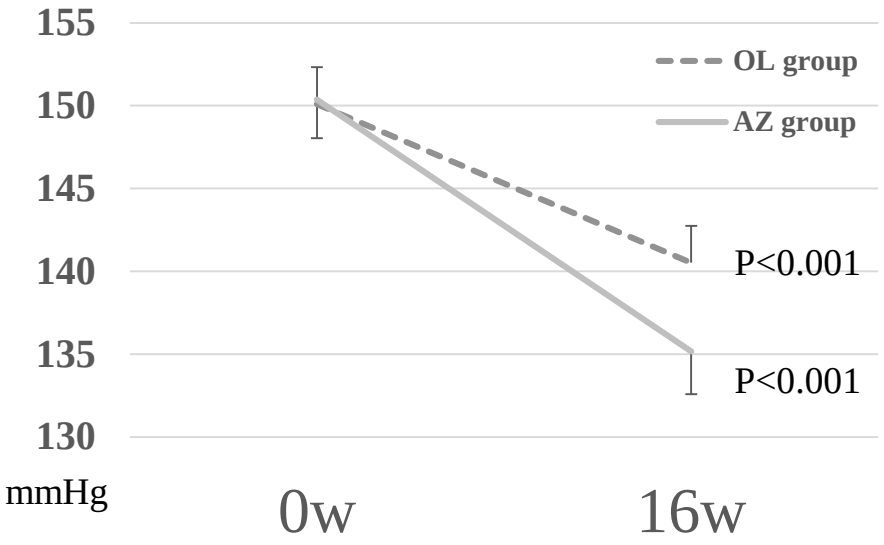


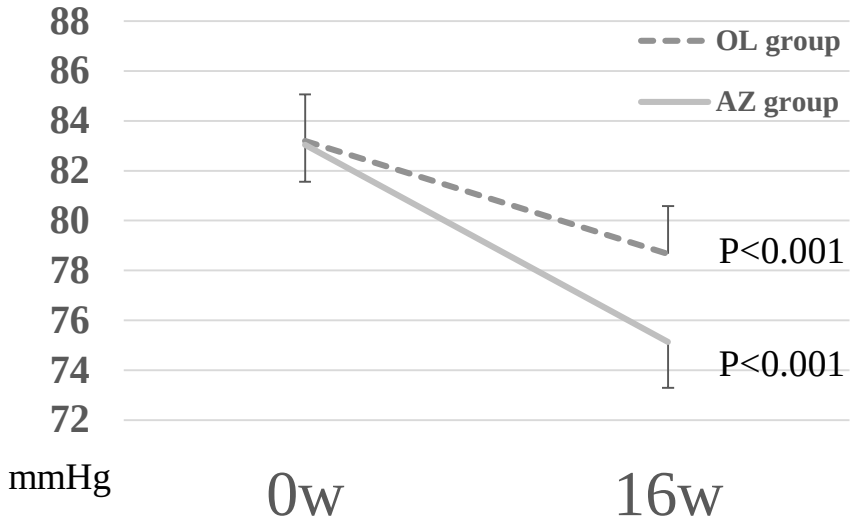

**Fig. 3** Blood pressure changes after 16 week treatment with olmesartan or azilsartan.

**Supplemental Digital Content. 1**

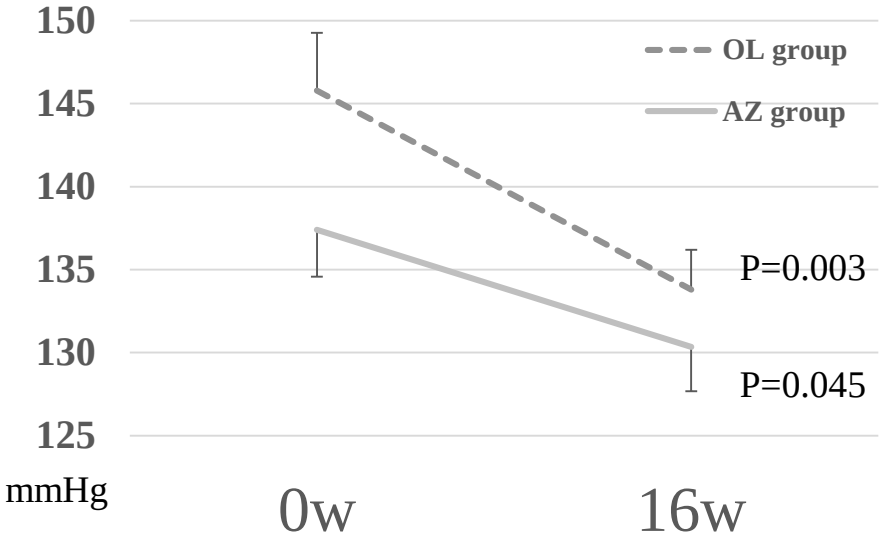
**Systolic OBP**




**Diastolic OBP**




**Systolic HBP**




**Diastolic HBP**

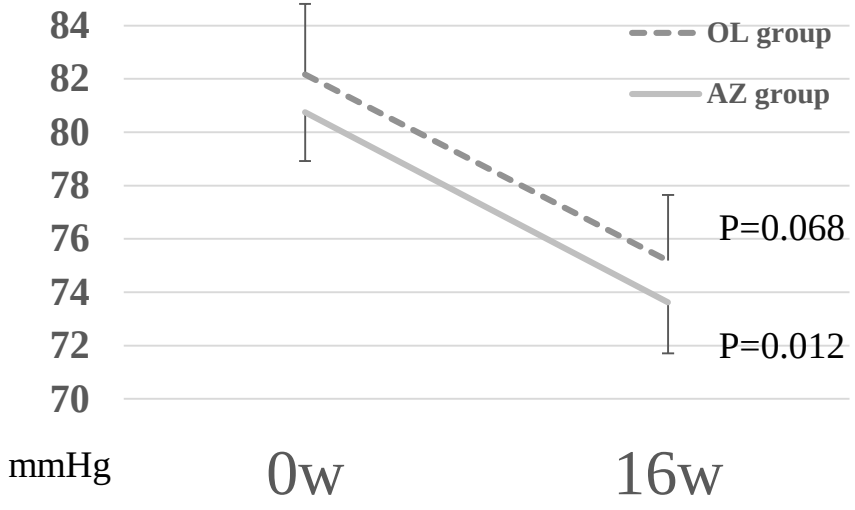


**Table 1** The baseline clinical characteristics of each group

| | OL group (n=40) | AZ group (n=44) | p |
|---|---|---|---|
| Age, years | 66.6 ± 11.8 | 68.7 ± 10.1 | 0.373 |
| Sex (male), n (%) | 18 (45%) | 22 (50%) | 0.668 |
| Body mass index, (kg/m²) | 25.9 ± 3.9 | 25.2 ± 3.3 | 0.396 |
| Smoking (%) | 66.7 | 71.4 | 0.794 |
| Systolic OBP(mmHg) | 150.1 ± 14.1 | 150.4 ± 15.4 | 0.935 |
| Diastolic OBP(mmHg) | 83.2 ± 11.8 | 83.0 ± 9.8 | 0.948 |
| Systolic HBP(mmHg) | 145.8 ± 17.0 | 137.4 ± 13.5 | 0.068 |
| Diastolic HBP(mmHg) | 82.2 ± 12.5 | 80.8 ± 8.6 | 0.663 |
| **Prevalence of complications** | | | |
| Diabetes mellitus, n (%) | 19 (47.5%) | 19 (43.2%) | 0.827 |
| Dyslipidemia, n (%) | 22 (55%) | 20 (45.4%) | 0.512 |
| Renal dysfunction, n (%) | 9 (22.5%) | 8 (18.2%) | 0.786 |
| Liver dysfunction, n (%) | 6 (15.0%) | 3 (6.8%) | 0.298 |
| Myocardial infarction, n (%) | 2 (5.0%) | 3 (7.5%) | 1.000 |
| Angina pectoris, n (%) | 4 (10%) | 4 (9.1%) | 1.000 |
| Cerebral infarction, n (%) | 3 (7.5%) | 2 (4.5%) | 0.665 |
| Cerebral hemorrhage, n (%) | 1 (2.5%) | 0 (0%) | 1.000 |
| **Pre use of ARB** | | | |
| Candesartan, n (%) | 12 (30.0%) | 14 (31.8%) | 1.000 |
| Valsartan, n (%) | 11 (27.5%) | 7 (15.9%) | 0.287 |
| Losartan, n (%) | 8 (20.0%) | 10 (22.7%) | 0.796 |
| Telmisartan, n (%) | 9 (22.5%) | 9 (20.5%) | 1.000 |
| Irbesartan, n (%) | 0 (0%) | 4 (9.1%) | 0.117 |

*P* values were obtained by t-test for the parameters of age and body mass index.

For the others, *P* values were obtained by Fisher Exact test.

ARB; angiotenisin II receptor blocker, OL; olmesartan, AZ; azilsartan, OBP; office blood pressure, HBP; home blood pressure

**Table 2 Baseline parameters and their Changes after 16-week treatment with Olmesartan or Azilsartan.**

| | OL group (n=40) | | | AZ group (n=44) | | |
|---|---|---|---|---|---|---|
| | Baseline | 16 weeks | p | Baseline | 16 weeks | p |
| Dosage of ARB (mg/day) | 20.3 ± 3.6 | 23.1 ± 8.0 | 0.023* | 20.5 ± 3.0 | 23.2 ± 7.5 | 0.012* |
| PR (/min) | 76.0 ± 12.1 | 73.8 ± 12.8 | 0.453 | 75.6 ± 13.8 | 75.7 ± 12.9 | 0.929 |
| K (mmol/L) | 4.4 ± 0.4 | 4.2 ± 0.4 | 0.017* | 4.3 ± 0.4 | 4.3 ± 0.4 | 0.622 |
| Cr (mg/dL) | 0.8 ± 0.3 | 0.8 ± 03 | 0.484 | 0.8 ± 0.2 | 0.8 ± 0.2 | 0.033* |
| eGFR (mL/min) | 68.6 ± 18.1 | 67.0 ± 18.8 | 0.605 | 68.6 ± 16.8 | 65.5 ± 16.5 | 0.022* |
| T-Chol (mg/dL) | 193.4 ± 47.5 | 197.4 ± 80.5 | 0.753 | 187.7 ± 49.0 | 185.5 ± 42.2 | 0.784 |
| LDL-C (mg/dL) | 104.2 ± 30.2 | 104.5 ± 23.8 | 0.640 | 111.5 ± 27.7 | 110.2 ± 27.4 | 0.309 |
| HDL-C (mg/dL) | 61.4 ± 15.6 | 57.7 ± 12.6 | 0.083 | 61.1 ± 23.3 | 58.9 ± 21.9 | 0.001** |
| HbA1c (%) | 6.1 ± 0.8 | 6.1 ± 0.8 | 0.132 | 6.0 ±0.7 | 6.11 ± 0.8 | 0.867 |
| BNP (pq/mL) | 37.7 ± 48.6 | 37.6 ± 43.3 | 0.067 | 30.2 ± 27.0 | 32.0 ± 31.6 | 0.971 |
| sFlt-1 (pg/mL) | 72.9 ± 9.3 | 69.4 ± 9.6 | 0.034* | 74.7 ± 12.9 | 74.2 ± 12.8 | 0.182 |
| U-Alb (mg/gCr) | 114.0 ± 239.6 | 133.1 ± 316.5 | 0.642 | 211.5 ± 512.2 | 137.1 ± 384.4 | 0.047* |
| U-L-FABP (ug/gCr) | 11.2 ± 12.7 | 4.9 ± 4.0 | 0.019* | 8.8 ± 7.4 | 7.56 ± 12.1 | 0.547 |

OL:olmesartan, AZ: azilsartan, ARB: angiotensin receptor blocker, PR: pulse rate, K: serum potassium concentration, Cr: serum creatinine concentration, eGFR: estimated glomerular filtration rate, T-chol: total cholesterol concentration, LDL-C: low density lipoprotein cholesterol concentration, HDL-C: high density lipoprotein cholesterol concentration, HbA1c: hemoglobin A1c, BNP: brain natriuretic peptide, sFlt-1: soluble fms-like tyrosine kinase-1, U-Alb: urinary Albumin/Creatinine ratio , U-L-FABP: urinary L-type fatty acid-binding protein/Creatinine ratio *P < 0.05, **P < 0.01.