**Supplementary Tables**

**Table S1. Single components of duplex sonography.** Single components of the brachial duplex sonographic parameters’ differences between the non-fistula and fistula arm. Flow in [, cross-section in [], maximal, minimal, and end-diastolic flow velocity in [] for , average flow velocity in [], systolic-diastolic ratio , pulsatility index , resistance index , vertical and horizontal diameter in [] for , and perimeter in [] for are shown. In 4 patients a superficial brachial artery was detectable, therefore flow and cross-section of A. brachialis and A. brachialis superficialis was measured independently and added up afterwards. All other parameters could not be quantified in these patients (see Supplementary Material, Subsection Measuring points). Abbreviations: , total number of patients; , mean; , standard deviation.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **non-fistula arm** |  |  |  | **fistula arm** |  |  |  |
|  | 55 | 0.2733 | 0.1009 |  | 55 | 3.2196 | 1.6776 |
|  | 55 | 20.1873 | 7.0865 |  | 55 | 52.7545 | 25.4149 |
|  | 51 | 89.8804 | 21.0311 |  | 51 | 158.2647 | 43.5354 |
|  | 51 | 6.3431 | 3.3768 |  | 51 | 74.5431 | 27.8625 |
|  | 51 | 7.8392 | 4.3068 |  | 51 | 75.8157 | 27.2056 |
|  | 51 | 23.5373 | 7.2860 |  | 51 | 104.0588 | 35.8879 |
|  | 51 | 14.2920 | 6.8617 |  | 51 | 2.2178 | 0.6308 |
|  | 51 | 3.6837 | 0.7775 |  | 51 | 0.8665 | 0.3198 |
|  | 51 | 0.9118 | 0.0494 |  | 51 | 0.5259 | 0.0942 |
|  | 51 | 4.6922 | 0.8224 |  | 51 | 7.3588 | 1.6675 |
|  | 51 | 5.1922 | 0.8618 |  | 51 | 8.5118 | 2.0364 |
|  | 51 | 15.7529 | 2.8941 |  | 51 | 25.3980 | 5.9549 |

**Table S2. Patients’ characteristics.** Abbreviations: No., number; BMI, body mass index; dRCF/d, distal radiocephalic fistula; pRCF/p, proximal forearm radiocephalic fistula; HD, haemodialysis; PD, peritoneal dialysis; CKD, chronic kidney disease; CVD incl. RF, cardiovascular disease inclusive risk factors; m, male; f, female; R, right arm; L, left arm; HUS, haemolytic-uremic syndrome; GP, glomerulopathy; unkn, unknown; DKD, diabetic kidney disease; PKD, polycystic kidney disease; HKD, hypertensive kidney disease; HRS, hepatorenal syndrome; ROD, renal osteodystrophy; RA, renal anaemia; HT, hypertension; HHD, hypertensive heart disease; DLP, dyslipidaemia (hypercholesterolemia); DM(1), diabetes mellitus (Type 1); DM(2), diabetes mellitus (Type 2); CAD, coronary artery disease; CHF, congestive heart failure; pAF, paroxysmal atrial fibrillation; PAD, peripheral artery disease; F1 and F2, 2 exemplary patients with complete fistula failure.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Gender** | **Age [years]** | **BMI**  | **RCF** | **RCF arm** | **former fistula** **(same arm)** | **primary renal disease** | **No. renal transplant** | **current dialysis** | **haemodialysis (HD) vintage [months]**  | **peritoneal dialysis (PD) vintage [months]** | **complications of CKD and CVD incl. RF** |
| 1 | m | 24 | 18.38 | d | L | none | HUS | 1 | none | 86 | 0 | ROD, RA, HT |
| 2 | m | 71 | 22.34 | p | R | none | GP | 1 | none | 21 | 0 | ROD, RA, HHD, DM(2) |
| 3 | f | 47 | 29.40 | p | R | none | unkn | 2 | none | 178 | 0 | RA, HHD, DLP |
| 4 | m | 63 | 22.49 | d | L | none | GP | 1 | none | 73 | 0 | ROD, RA, HHD, DLP, CAD, PAD |
| 5 | m | 85 | 22.59 | d | L | none | unkn | 1 | none | 45 | 0 | HHD, DLP |
| 6 | f | 59 | 21.83 | d | R | none | unkn | 0 | HD | 15 | 0 | RA, HT |
| 7 | m | 52 | 27.17 | d | L | none | GP | 1 | none | 14 | 0 | RA, HHD |
| 8 | m | 45 | 26.47 | p | L | dRCF | other | 1 | none | 86 | 0 | ROD, RA, HT, DLP |
| 9 | m | 59 | 24.69 | p | L | dRCF | other | 0 | HD | 51 | 0 | RA, HHD, DM(2), CAD, CHF |
| 10 | f | 57 | 31.96 | d | L | none | DKD | 1 | none | 13 | 0 | RA, HT, DM(1) |
| 11 | m | 53 | 26.59 | d | L | none | PKD | 0 | HD | 78 | 0 | ROD, RA, HT, CAD, CHF, pAF |
| 12 | m | 56 | 28.08 | p | R | none | GP | 0 | HD | 27 | 0 | RA, CAD, CHF |
| 13 | m | 64 | 38.74 | p | L | none | GP | 0 | HD | 22 | 0 | ROD, RA, HT, DLP, CAD, CHF, PAD |
| 14 | m | 72 | 33.41 | d | L | none | DKD | 1 | HD | 39 | 0 | ROD, HHD, DM(2), CAD, PAD |
| 15 | m | 58 | 36.73 | d | L | none | HRS | 0 | HD | 16 | 0 | RA, DM(2), CHF, pAF |
| 16 | m | 55 | 27.77 | d | L | none | DKD | 1 | none | 30 | 0 | HHD, DLP, DM(2) |
| 17 | f | 56 | 23.89 | d | R | none | HRS | 0 | HD | 7 | 0 | RA, pAF |
| 18 | m | 41 | 21.05 | p | L | dRCF | GP | 1 | HD | 16 | 24 | ROD, RA, HT, DM(2), CHF, pAF |
| 19 | f | 46 | 24.45 | p | L | dRCF | GP | 1 | HD | 16 | 60 | RA, HT |
| 20 | f | 55 | 21.10 | d | R | none | GP | 0 | HD | 35 | 0 | ROD, RA, HHD, DLP, CAD |
| 21 | m | 47 | 30.12 | p | L | dRCF | GP | 1 | none | 44 | 0 | ROD, RA, HT |
| 22 | f | 54 | 23.31 | d | L | none | PKD | 1 | none | 86 | 0 | ROD, RA, HT, DLP |
| 23 | m | 61 | 24.16 | d | L | none | GP | 0 | HD | 13 | 0 | ROD, RA, HHD |
| 24 | m | 54 | 23.45 | d | L | none | HKD | 1 | none | 34 | 28 | ROD, RA, HT, DLP, CAD |
| 25 | m | 73 | 23.88 | d | L | none | DKD | 1 | none | 23 | 0 | ROD, RA, HT, DM(2), pAF |
| 26 | m | 72 | 23.89 | d | L | none | PKD | 1 | none | 66 | 0 | ROD, RA, HT |
| 27 | f | 43 | 23.67 | d | L | none | unkn | 4 | none | 68 | 2 | RA, HT |
| 28 | m | 74 | 24.91 | d | L | none | GP | 1 | none | 29 | 0 | ROD, RA, HHD, DLP, DM(2), CAD, pAF |
| 29 | m | 35 | 23.94 | p | L | dRCF | GP | 1 | none | 96 | 0 | ROD, RA, HT |
| 30 | m | 51 | 22.10 | d | L | none | GP | 1 | none | 51 | 0 | ROD, RA, HHD, DLP |
| 31 | f | 57 | 25.06 | p | L | none | HKD | 1 | none | 70 | 0 | RA, HT |
| 32 | f | 40 | 18.59 | d | L | none | DKD | 1 | none | 55 | 0 | ROD, RA, HHD, DM(1) |
| 33 | m | 66 | 30.76 | d | L | none | HKD | 1 | none | 114 | 0 | ROD, RA, HT, DLP, DM(2), CAD, pAF |
| 34 | m | 60 | 31.44 | d | L | none | PKD | 1 | none | 66 | 0 | HT, DLP, DM(2), CAD |
| 35 | m | 40 | 24.84 | d | L | none | unkn | 1 | none | 85 | 0 | ROD, HT |
| 36 | m | 61 | 30.45 | d | R | none | GP | 1 | none | 57 | 0 | ROD, RA, HHD, DLP |
| 37 | m | 71 | 26.40 | d | L | none | HKD | 1 | HD | 24 | 0 | ROD, RA, HHD, DM(2) |
| 38 | m | 24 | 20.05 | d | R | none | GP | 1 | none | 13 | 0 | ROD, RA, HT |
| 39 | m | 55 | 23.99 | d | L | none | HKD | 1 | none | 18 | 0 | RA, HHD |
| 40 | m | 52 | 25.50 | d | L | none | DKD | 1 | none | 4 | 13 | ROD, HHD, DLP, DM(1) |
| 41 | f | 60 | 26.03 | d | L | none | PKD | 1 | none | 102 | 0 | ROD, HHD, DM(2), CAD, pAF |
| 42 | f | 52 | 34.26 | d | R | none | PKD | 1 | none | 33 | 0 | ROD, RA, HT |
| 43 | f | 53 | 29.36 | d | L | none | unkn | 1 | none | 28 | 44 | ROD, RA, HHD |
| 44 | m | 42 | 29.51 | d | L | none | GP | 1 | none | 108 | 0 | ROD, RA, HHD, DLP |
| 45 | f | 52 | 29.73 | d | L | none | GP | 1 | none | 50 | 0 | ROD, RA, HT, DM(2) |
| 46 | m | 70 | 22.68 | d | L | none | unkn | 2 | none | 225 | 0 | ROD, RA, HT |
| 47 | f | 62 | 22.86 | d | L | none | PKD | 1 | none | 28 | 0 | ROD, HT, DLP |
| 48 | m | 79 | 23.84 | d | L | none | GP | 2 | none | 81 | 0 | HT |
| 49 | f | 31 | 19.03 | d | R | none | unkn | 1 | none | 110 | 0 | ROD, HT |
| 50 | m | 42 | 27.73 | d | L | none | GP | 1 | none | 33 | 36 | ROD, HT, DLP |
| 51 | f | 58 | 41.41 | d | L | none | GP | 1 | none | 78 | 0 | ROD, HT, DLP, DM(2) |
| 52 | m | 62 | 26.12 | d | L | none | GP | 1 | none | 96 | 0 | ROD, RA, HT |
| 53 | m | 76 | 24.80 | p | L | dRCF | GP | 1 | none | 25 | 0 | RA, HHD, DLP, DM(2), CAD, pAF |
| 54 | m | 50 | 25.50 | d | L | none | GP | 1 | none | 98 | 0 | ROD, RA, HHD |
| 55 | m | 27 | 24.34 | d | L | none | GP | 1 | none | 5 | 0 | RA, HT |
| 56 | m | 72 | 35.83 | d | L | none | DKD | 1 | none | 27 | 0 | ROD, RA, HT, DLP, DM(2), CAD, PAD |
| F1 | f | 77 | 23.44 | p | L | dRCF | GP | 1 | none | 20 | 0 | HT, DLP |
| F2 | f | 69 | 26.06 | d | L | none | PKD | 0 | none | 0 | 0 | RA, HT, DLP |

**Table S3. Single components of peripheral pulse wave analysis (PWA) and pulse wave velocity (PWV) measurements.** Single components of the radial and brachial slope and area differences (peripheral PWA, in [] for and in [] for with ) as well as the PWV differences (considered in 3 different segments, in [] for ) between the non-fistula and fistula arm. Due to quality control, only PWV measurements with an uncertainty of maximal were accepted (see Supplementary Material, Subsection Measuring points). For that reason, the number of patients varies the different segments. Abbreviations: , total number of patients; , mean; , standard deviation.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **non-fistula arm** |  |  |  | **fistula arm** |  |  |  |
|  | 56 | 0.6673 | 0.1761 |  | 56 | 0.6093 | 0.1451 |
|  | 56 | -0.2106 | 0.0469 |  | 56 | -0.1659 | 0.0530 |
|  | 56 | 0.0492 | 0.0396 |  | 56 | -0.0338 | 0.0545 |
|  | 56 | -0.0464 | 0.0108 |  | 56 | -0.0539 | 0.0136 |
|  | 56 | 42.186 | 2.201 |  | 56 | 43.655 | 1.618 |
|  | 56 | 50.902 | 5.561 |  | 56 | 51.669 | 5.402 |
|  | 56 | 93.089 | 7.290 |  | 56 | 95.324 | 6.593 |
|  | 56 | 0.5940 | 0.1450 |  | 56 | 0.5468 | 0.1073 |
|  | 56 | -0.1922 | 0.0549 |  | 56 | -0.1550 | 0.0617 |
|  | 56 | 0.0133 | 0.0415 |  | 56 | -0.0457 | 0.0434 |
|  | 56 | -0.0513 | 0.0114 |  | 56 | -0.0579 | 0.0120 |
|  | 56 | 43.270 | 2.074 |  | 56 | 44.044 | 1.662 |
|  | 56 | 52.329 | 5.820 |  | 56 | 53.338 | 5.029 |
|  | 56 | 95.600 | 7.608 |  | 56 | 97.382 | 6.361 |
|  | 49 | 8.770 | 1.325 |  | 49 | 8.071 | 1.450 |
|  | 44 | 8.152 | 1.370 |  | 44 | 7.611 | 1.453 |
|  | 23 | 8.102 | 1.657 |  | 23 | 6.846 | 1.330 |

**Table S4. Peripheral pulse wave analysis at the arterialized V. cephalic in comparison to the non-fistula arm.** Results of Student’s t-test (two-sided, significance level 5%) and Wilcoxon signed-rank test (significance level 5%) of slope and area differences between radial or brachial measurements at the non-fistula and measurements in the arterialized V. cephalic at the fistula arm ( in [] for and in [] for with ). Note, that 6 out of 56 patients are not listed due to insufficient measuring quality. Abbreviations: , total number of patients; , minimal value; , maximal value; , median; , mean; , standard deviation; , lower 95% confidence interval; , upper 95% confidence interval; , significance value (Student’s t-test); , central tendency; , significance value (Wilcoxon signed-rank test).

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  | 50 | -0.16 | 0.46 | 0.1069 | 0.1043 | 0.1401 | 0.0645 | 0.1441 | 0.000 |  |  |
|  | 50 | -0.20 | 0.05 | -0.0482 | -0.0562 | 0.0546 | -0.0717 | -0.0407 | 0.000 |  |  |
|  | 50 | -0.02 | 0.27 | 0.0865 | 0.0928 | 0.0624 | 0.0750 | 0.1105 | 0.000 |  |  |
|  | 50 | -0.03 | 0.06 | 0.0086 | 0.0103 | 0.0162 |  |  |  |  | 0.000 |
|  | 50 | -6.94 | 2.52 | -1.5624 | -1.5312 | 1.8088 | -2.0453 | -1.0172 | 0.000 |  |  |
|  | 50 | -10.3 | 7.86 | -1.6319 | -1.4825 | 4.1812 | -2.6708 | -0.2942 | 0.016 |  |  |
|  | 50 | -14.1 | 10.4 | -3.3248 | -3.0137 | 5.5092 | -4.5795 | -1.4480 | 0.000 |  |  |
|  | 50 | -0.19 | 0.40 | 0.0010 | 0.0209 | 0.1299 | -0.0160 | 0.0578 | 0.260 |  |  |
|  | 50 | -0.17 | 0.10 | -0.0373 | -0.0384 | 0.0550 | -0.0540 | -0.0228 | 0.000 |  |  |
|  | 50 | -0.04 | 0.23 | 0.0506 | 0.0550 | 0.0571 | 0.0388 | 0.0712 | 0.000 |  |  |
|  | 50 | -0.04 | 0.04 | 0.0039 | 0.0058 | 0.0152 | 0.0015 | 0.0101 | 0.009 |  |  |
|  | 50 | -6.19 | 2.51 | -0.4427 | -0.4305 | 1.5483 | -0.8705 | 0.0095 | 0.055 |  |  |
|  | 50 | -8.50 | 7.86 | -0.5719 | 0.0270 | 3.6371 | -1.0066 | 1.0607 | 0.958 |  |  |
|  | 50 | -10.9 | 10.4 | -1.0174 | -0.4035 | 4.7820 | -1.7625 | 0.9555 | 0.553 |  |  |

**Table S5. Peripheral pulse wave analysis at the arterialized V. cephalic in comparison to other measuring points at the fistula arm.** Results of Student’s t-test (two-sided, significance level 5%) and Wilcoxon signed-rank test (significance level 5%) of slope and area differences between measurements in the arterialized V. cephalic and radial or brachial measurements at the fistula arm ( in [] for and in [] for with ). Note, that 6 out of 56 patients are not listed due to insufficient measuring quality. Abbreviations: , total number of patients; , minimal value; , maximal value; , median; , mean; , standard deviation; , lower 95% confidence interval; , upper 95% confidence interval; , significance value (Student’s t-test); , central tendency; , significance value (Wilcoxon signed-rank test).

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  | 50 | -0.45 | 0.16 | -0.0461 | -0.0357 | 0.1025 | -0.0648 | -0.0066 | 0.017 |  |  |
|  | 50 | -0.07 | 0.15 | 0.0105 | 0.0118 | 0.0413 |  |  |  |  | 0.092 |
|  | 50 | -0.18 | 0.08 | -0.0045 | -0.0077 | 0.0431 |  |  |  |  | 0.245 |
|  | 50 | -0.03 | 0.01 | -0.0007 | -0.0027 | 0.0090 | -0.0052 | -0.0001 | 0.042 |  |  |
|  | 50 | -2.41 | 2.38 | 0.0478 | -0.0072 | 1.0060 | -0.2931 | 0.2787 | 0.960 |  |  |
|  | 50 | -6.95 | 9.16 | 1.0252 | 0.6273 | 3.4278 | -0.3469 | 1.6015 | 0.202 |  |  |
|  | 50 | -9.36 | 10.2 | 0.9795 | 0.6201 | 4.1206 | -0.5509 | 1.7912 | 0.292 |  |  |
|  | 50 | -0.24 | 0.22 | 0.0448 | 0.0334 | 0.1063 | 0.0032 | 0.0636 | 0.031 |  |  |
|  | 50 | -0.09 | 0.17 | -0.0022 | 0.0007 | 0.0462 |  |  |  |  | 0.776 |
|  | 50 | -0.10 | 0.07 | 0.0037 | 0.0043 | 0.0334 |  |  |  |  | 0.047 |
|  | 50 | -0.02 | 0.02 | 0.0019 | 0.0016 | 0.0100 | -0.0012 | 0.0045 | 0.258 |  |  |
|  | 50 | -2.66 | 1.95 | -0.3833 | -0.4304 | 0.9871 | -0.7109 | -0.1498 | 0.003 |  |  |
|  | 50 | -13.8 | 6.13 | -1.4301 | -1.2710 | 3.9995 | -2.4077 | -0.1344 | 0.029 |  |  |
|  | 50 | -16.5 | 7.40 | -1.7779 | -1.7014 | 4.7973 | -3.0648 | -0.3380 | 0.016 |  |  |

**Table S6. Single components of peripheral pulse wave analysis (PWA) at the arterialized V. cephalic and other measuring points (non-fistula and fistula arm).** Single components of the cephalic vs. radial or brachial slope and area differences (peripheral PWA) measured at the non-fistula or fistula arm ( in [] for and in [] for with ). Note, that 6 out of 56 patients are not listed due to insufficient measuring quality. Abbreviations: , total number of patients; , mean; , standard deviation.

|  |  |  |  |
| --- | --- | --- | --- |
| **fistula arm** |  |  |  |
|  | 50 | 0.5812 | 0.1382 |
|  | 50 | -0.1546 | 0.0712 |
|  | 50 | -0.0429 | 0.0560 |
|  | 50 | -0.0572 | 0.0154 |
|  | 50 | 43.694 | 1.754 |
|  | 50 | 51.920 | 5.970 |
|  | 50 | 95.613 | 7.354 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **non-fistula arm** |  |  |  | **fistula arm** |  |  |  |
|  | 50 | 0.6855 | 0.1722 |  | 50 | 0.6168 | 0.1373 |
|  | 50 | -0.2108 | 0.0487 |  | 50 | -0.1664 | 0.0525 |
|  | 50 | 0.0499 | 0.0400 |  | 50 | -0.0352 | 0.0553 |
|  | 50 | -0.0470 | 0.0107 |  | 50 | -0.0546 | 0.0135 |
|  | 50 | 42.162 | 2.206 |  | 50 | 43.701 | 1.653 |
|  | 50 | 50.437 | 5.451 |  | 50 | 51.293 | 5.384 |
|  | 50 | 92.600 | 7.181 |  | 50 | 94.993 | 6.636 |
|  | 50 | 0.6021 | 0.1456 |  | 50 | 0.5477 | 0.1044 |
|  | 50 | -0.1930 | 0.0558 |  | 50 | -0.1554 | 0.0635 |
|  | 50 | 0.0121 | 0.0403 |  | 50 | -0.0472 | 0.0444 |
|  | 50 | -0.0514 | 0.0107 |  | 50 | -0.0589 | 0.0118 |
|  | 50 | 43.263 | 2.099 |  | 50 | 44.124 | 1.655 |
|  | 50 | 51.947 | 5.870 |  | 50 | 53.191 | 5.172 |
|  | 50 | 95.210 | 7.702 |  | 50 | 97.315 | 6.530 |

**Table S7. PWA and fistula function.** Pearson correlation coefficient and the associated two-sided -value for inter-arm differences in flow and peak flow velocity versus inter-arm slope differences for the individual sections for and their sum in the A. radialis and A. brachialis (). Values for are marked in bold if <0.05.

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |  |
|  | 0.021 | **-0.311** | 0.004 | **-0.399** |
|  | 0.028 | **0.296** | 0.034 | **0.298** |
|  | 0.025 | **-0.302** | 0.026 | **-0.311** |
|  | 0.122 | -0.211 | 0.014 | **-0.342** |
|  | 0.005 | **-0.370** | 0.001 | **-0.438** |
|  | 0.038 | **-0.281** | 0.121 | -0.220 |
|  | 0.268 | 0.152 | 0.002 | **0.415** |
|  | 0.010 | **-0.344** | 0.013 | **-0.344** |
|  | 0.432 | -0.108 | 0.014 | **-0.344** |
|  | 0.010 | **-0.345** | 0.003 | **-0.403** |

**Table S8. Duplex sonographic parameters in patients with complete fistula failure.** Brachial duplex sonographic parameters measured at the non-fistula and fistula arm in 2 exemplary patients with complete fistula failure (F1 and F2, Supplementary Table S2). Flow in [, cross-sectionally averaged flow in [, cross-section in [], maximal, minimal, and end-diastolic flow velocity in [] for , average flow velocity in [], systolic-diastolic ratio , pulsatility index , resistance index , vertical and horizontal diameter in [] for , and perimeter in [] are shown.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Patient F1** | non-fistula arm | fistula arm | **Patient F2** | non-fistula arm | fistula arm |
|  | 0.31 | 0.41 |  | 0.34 | 0.26 |
|  | 0.155 | 0.205 |  | 0.17 | 0.13 |
|  | 17.3 | 28.4 |  | 9.8 | 9.6 |
|  | 124.6 | 100.2 |  | 142.6 | 139.4 |
|  | 2.4 | 3.5 |  | 31.2 | 17.5 |
|  | 2.4 | 3.5 |  | 32.3 | 18.5 |
|  | 29.9 | 24.0 |  | 57.9 | 45.5 |
|  | 51.92 | 28.63 |  | 4.41 | 7.54 |
|  | 4.09 | 4.03 |  | 1.92 | 2.68 |
|  | 0.98 | 0.97 |  | 0.77 | 0.87 |
|  | 4.7 | 4.7 |  | 3.3 | 3.4 |
|  | 4.7 | 7.7 |  | 3.8 | 3.6 |
|  | 15.3 | 20.1 |  | 11.4 | 9.7 |