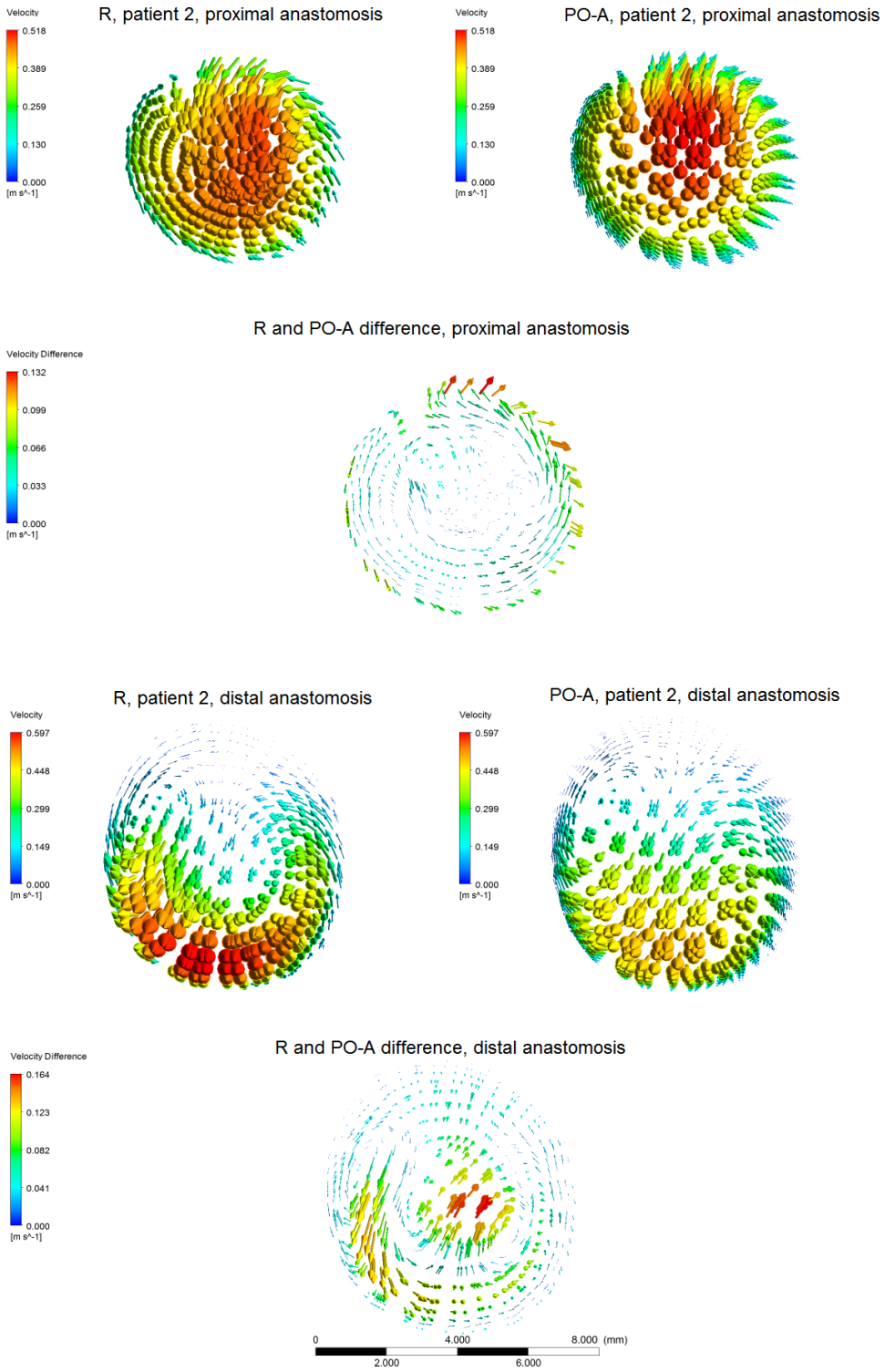
# Supplementary Data

Supplementary Table 1: area-averaged values of velocity at the cut planes at the proximal anastomosis, mid-graft and distal anastomosis. The differences reported are between the R and PO-A and PO-NA cases, for Patient 1.

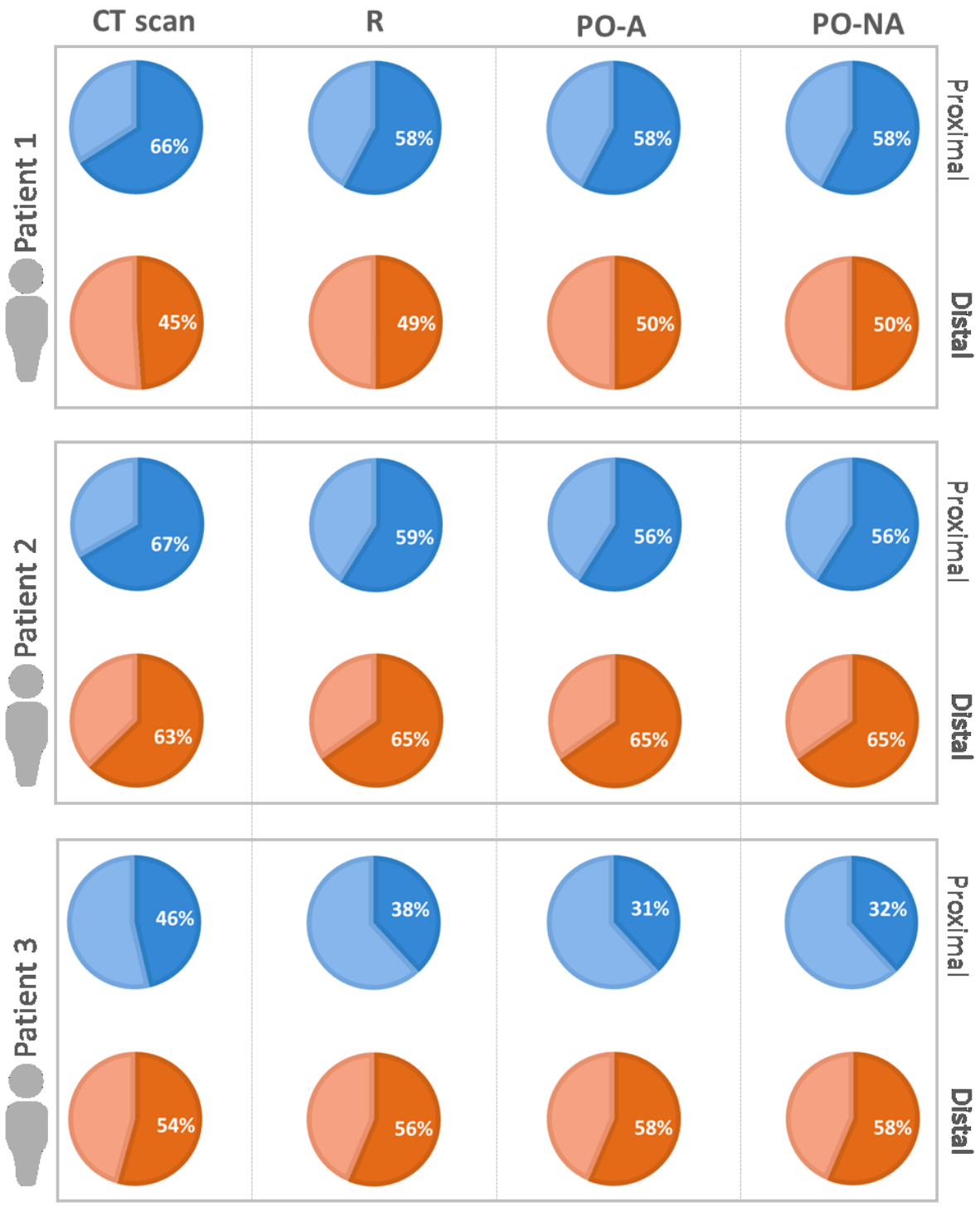
| | **R** | **PO-A** | **PO-NA** |
|---|---|---|---|
| **Proximal plane** [m/s] | 0.043 | 0.047 | 0.041 |
| % difference with R | | 9% | 4% |
| **Mid plane** [m/s] | 0.109 | 0.125 | 0.118 |
| % difference with R | | 14% | 8% |
| **Distal plane** [m/s] | 0.131 | 0.146 | 0.143 |
| % difference with R | | 11% | 9% |

*Supplementary Table 2: area-averaged values of velocity at the cut planes at the proximal anastomosis, mid-graft and distal anastomosis. The differences reported are between the R and PO-A and PO-NA cases, for Patient 3.*

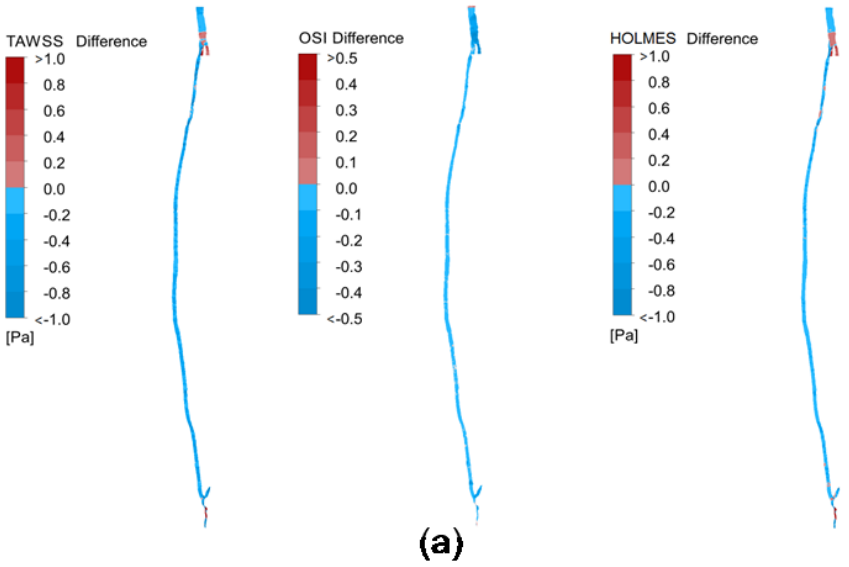
| | **R** | **PO-A** | **PO-NA** |
|---|---|---|---|
| **Proximal plane** | 0.581 | 0.566 | 0.572 |
| % difference with R | | 3% | 2% |
| **Mid plane** | 0.995 | 0.959 | 0.984 |
| % difference with R | | 4% | 1% |
| **Distal plane** | 0.738 | 0.711 | 0.728 |
| % difference with R | | 4% | 2% |



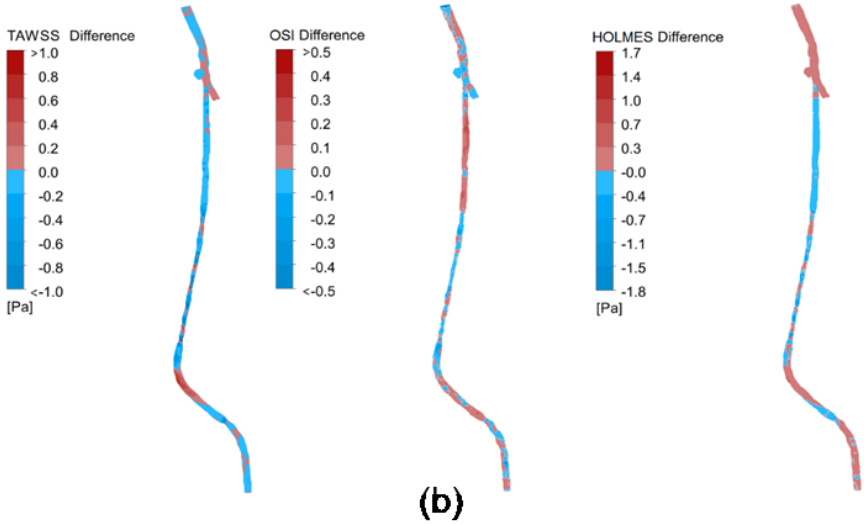

*Supplementary Figure 1: velocity vectors at peak systole over cross-sectional planes at proximal and distal anastomosis with differences between RA and PO-A in Patients 2.*



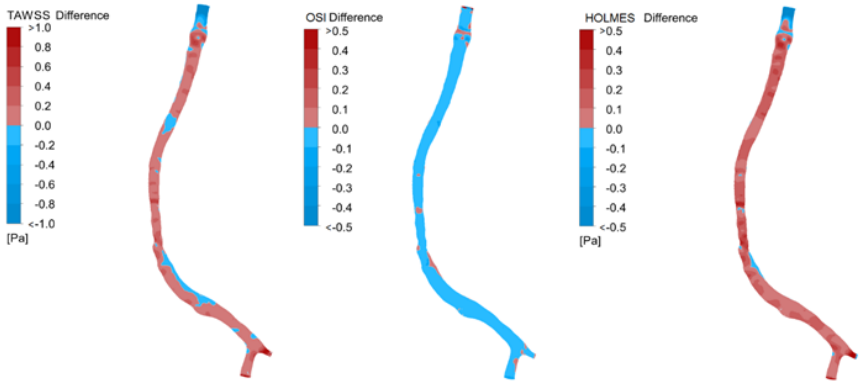

*Supplementary Figure 2: Percentages of occluded cross-sectional areas of the bypass at the proximal (blue charts) and distal (orange charts) anastomosis in Patients 1, 2 and 3 estimated using clinical data (CT scan) and simulated scenarios (R, PO-A and PO-NA).*




(a)




(b)




(c)

*Supplementary Figure 3: differences betweeen R and PO-A cases in haemodynamic indices (TAWSS, OSI and HOLMES) in Patients (a) 1, (b) 2 and (c) 3.*