# Surgical and percutaneous management of post-infarction ventricular septal defects in the era of primary percutaneous coronary intervention: The United Kingdom National Registry.

# Supplementary information

## Supplementary Figure 1 – Flowchart showing multiple attempts at PIVSD repair

Diagram

Description automatically generated

**Abbreviations:** PIVSD – postinfarction ventricular septal defect.

## Supplementary Table 1 – Participating Centres

|  |  |  |  |
| --- | --- | --- | --- |
| Hospital centre (number of patients) | City | Initial percutaneous management (N=131; 36.2%) | Initial surgical management (N=231; 63.8%) |
| University Hospital Bristol | Bristol | 23 | 1 |
| Freeman Hospital | Newcastle-upon-Tyne | 3 | 13 |
| Guys and St. Thomas’ Hospital | London | 2 | 27 |
| Kings College Hospital | London | 5 | 20 |
| Leeds General Infirmary | Leeds | 16 | 12 |
| Liverpool Heart and Chest Hospital | Liverpool | 5 | 36 |
| Morriston Hospital | Swansea | 0 | 14 |
| Nottingham University Hospital | Nottingham | 11 | 13 |
| Queen Elizabeth Hospital | Birmingham | 13 | 13 |
| Royal Infirmary of Edinburgh | Edinburgh | 21 | 11 |
| Royal Papworth Hospital | Cambridge | 4 | 46 |
| Royal Surrey County Hospital | Brighton | 14 | 7 |
| University Hospital Southampton | Southampton | 2 | 1 |
| Royal Stoke University Hospital | Stoke-on-Trent | 9 | 7 |
| University Hospital of Wales | Cardiff | 1 | 2 |
| Whytheshawe Hospital | Manchester | 2 | 8 |

## Supplementary Table 2 - Different predictors of post-discharge mortality\* (patients who survived to hospital discharge – landmark analysis)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variables** | **Univariate Cox analysis\*** | | **Multivariate Cox analysis\*** | |
| **HR (95% CI)** | ***P*-value** | **aHR (95% CI)** | ***P*-value** |
| **Percutaneous management1** | 0.83 (0.37, 1.86) | 0.647 | 1.00 (0.30, 3.31) | 0.999 |
| **Centre volume** | 1.01 (0.98, 1.04) | 0.580 | 1.01 (0.97, 1.05) | 0.621 |
| **Patients with multiple procedures** | 0.33 (0.08, 1.37) | 0.125 | 0.39 (0.08, 1.87) | 0.238 |
| **Time from AMI to VSD repair** | 1.00 (0.99, 1.01) | 0.547 | 1.00 (0.98, 1.01) | 0.622 |
| **Age** | 1.03 (0.99, 1.06) | 0.175 | 1.03 (0.98, 1.08) | 0.196 |
| **Female sex** | 0.86 (0.39, 1.88) | 0.707 | 0.50 (0.19, 1.32) | 0.162 |
| **Diabetes Mellitus** | 2.21 (1.01, 4.82) | 0.048 | 3.49 (1.39, 8.77) | 0.008 |
| **Hypertension** | 1.36 (0.66, 2.81) | 0.400 | 1.17 (0.50, 2.74) | 0.723 |
| **Creatinine** | 1.00 (1.00, 1.01) | 0.668 | 1.00 (0.99, 1.01) | 0.949 |
| **PCI to IRA** | 0.36 (0.14, 0.94) | 0.038 | 0.22 (0.07, 0.77) | 0.018 |
| **Number of vessels with coronary artery disease** | 1.14 (0.71, 1.84) | 0.589 | 1.18 (0.68, 2.04) | 0.559 |
| **NYHA class** | 0.97 (0.64, 1.46) | 0.884 | 1.04 (0.62, 1.76) | 0.877 |
| **Cardiogenic shock** | 0.98 (0.47, 2.01) | 0.946 | 1.15 (0.45, 2.92) | 0.775 |
| **RV dysfunction2** | 0.96 (0.39, 3.38) | 0.933 | 1.06 (0.36, 3.10) | 0.912 |

1Reference group is surgical management.

2Reference group is normal RV function (EF>50%).

\*Censored at 5 years.

**Note:** Enter algorithm was used. HR value corresponds to 1 unit increase/decrease for continuous variables.

**Abbreviations:** aHR – adjusted hazard ratios; AMI – acute myocardial infarction; EF – ejection fraction; HR – hazard ratios; IRA – infarct-related artery; NYHA – New York Heart Association classification; PCI – percutaneous coronary intervention; RV – right ventricle; VSD – ventricular septal defect.

### Supplementary Table 3 –Different predictors of percutaneous interventional management as initial management strategy

|  |  |  |
| --- | --- | --- |
| **Variables** | **Multivariate analysis** | |
| **aOR (95% CI)** | ***P*-value** |
| **Overall Centre volume** | 0.94 (0.91, 0.97) | <0.001 |
| **Time from AMI to VSD repair** | 1.00 (0.99, 1.01) | 0.845 |
| **Age** | 1.06 (1.03, 1.10) | 0.001 |
| **Female sex** | 0.78 (0.41, 1.50) | 0.459 |
| **Diabetes Mellitus** | 2.22 (0.97, 5.09) | 0.059 |
| **Hypertension** | 0.55 (0.30, 0.99) | 0.047 |
| **Creatinine** | 1.00 (0.99, 1.01) | 0.301 |
| **PCI to IRA** | 1.47 (0.81, 2.66) | 0.208 |
| **Cardiogenic shock** | 0.65 (0.33, 1.30) | 0.225 |
| **Defect size** | 0.94 (0.91, 0.98) | 0.004 |
| **Number of vessels with coronary artery disease** | 0.95 (0.65, 1.38) | 0.790 |
| **NYHA class** | 0.99 (0.67, 1.48) | 0.977 |
| **RV dysfunction1** | 0.74 (0.36, 1.51) | 0.403 |

1Reference group is normal RV size and function (EF>50%).

**Note:** Enter algorithm was used. aOR value corresponds to 1 unit increase/decrease for continuous variables.

**Abbreviations:** aOR – adjusted odds ratios; AMI – acute myocardial infarction; EF – ejection fraction; IRA – infarct-related artery; NYHA – New York Heart Association classification; PCI – percutaneous coronary intervention; RV – right ventricle; VSD – ventricular septal defect.