Background and Rationale

- Drug-eluting stents (DES) significantly reduced in-stent restenosis compared to bare-metal stents (BMS): restenosis rate 1% vs. 20-30%.
- DES significantly more expensive, with implications for funding in Victorian Public Hospitals (PUB).
- Private Hospitals (PVT) have no restriction on DES use.
- The Victorian Department of Human Services (DHS) has implemented guidelines on DES use in public hospitals (limiting use to ~30% of PCI).
- The indications are listed below.
- If PUB patients are being treated with fewer DES, this may increase the risk of in-stent restenosis, leading to increased morbidity, readmissions for repeat revascularisation and angiography or chest pains.

INDICATIONS FOR DRUG-ELUTING STENTS IN VIC PUBLIC HOSPITALS
1. Small vessels (RVD ≤ 2.50 mm)
2. Long lesions (> 20 mm)
3. Chronic total occlusions
4. Ostial or bifurcation lesions
5. Saphenous vein graft lesions
6. Diabetic patients
7. Chronic renal impairment
8. In-stent restenosis with BMS

Methods

- MIG = collaboration of 7 public and 1 private hospitals in Melbourne, VIC.
- Prospective collection of PCI data is facilitated via MIG database forms filled out at the conclusion of PCI on patients treated in these hospitals.
- Forms are then faxed to the central depository in the CCRE, collated and entered into a computerised database.
- 30-day and 12-month follow-up (with the cardiologist or phone call) is also made and information entered into the database = long-term follow-up.
- Information regarding these patients now form part of this analysis, with PCI’s dating from Apr 2004 to 1st May 2005, and 12-month follow-up to May 2006.
- Statistical analysis was performed by Assoc. Prof. Chris Reid, who is blinded to the procedures and outcomes, and has no personal involvement in any PCI.
- Patients were divided into two groups: Public Hospital vs Private Hospital PCI locations. Results are tabulated and presented; significance is set at p ≤ 0.05.

Results

Total number of patients = 3361
Summary of results:

<table>
<thead>
<tr>
<th></th>
<th>PUB</th>
<th>PVT</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males (%)</td>
<td>73.2</td>
<td>71.8</td>
<td>NS</td>
</tr>
<tr>
<td>Age (years)</td>
<td>64.0 ± 11.9</td>
<td>67.7 ± 12.1</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>DES Use (%)</td>
<td>48.3</td>
<td>82.9</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>Diabetes (%)</td>
<td>24.0</td>
<td>17.1</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>Previous MI (%)</td>
<td>29.0</td>
<td>24.2</td>
<td>0.013</td>
</tr>
<tr>
<td>Procedure Success</td>
<td>99.2%</td>
<td>99.0%</td>
<td>NS</td>
</tr>
<tr>
<td>30-Day MACE (%)</td>
<td>5.3</td>
<td>6.0</td>
<td>NS</td>
</tr>
<tr>
<td>30-Day Mortality (%)</td>
<td>1.7</td>
<td>2.3</td>
<td>NS</td>
</tr>
<tr>
<td>1-Year MACE (%)</td>
<td>12.4</td>
<td>15.6</td>
<td>NS</td>
</tr>
<tr>
<td>1-Year TVR (%)</td>
<td>6.3</td>
<td>6.5</td>
<td>NS</td>
</tr>
<tr>
<td>1-Year Mortality (%)</td>
<td>2.6</td>
<td>5.4</td>
<td>0.033</td>
</tr>
</tbody>
</table>

1. Privately insured patients were older with less diabetes and prior AMIs, and presented with more atypical chest pains and acute coronary syndromes.
2. Their rate of use of drug-eluting stents were almost double that of public patients.
3. Lesion type, complexity and characteristics were not significantly different between the two groups, with equally high initial procedural success rates.
4. The 30-day events were similar among the two groups, as were the 12-month MACE and TVR.
5. The privately insured patients’ cause of death were skewed toward higher renal and vascular causes, indicating perhaps a higher morbidity index prior to PCI.
6. The 12-month outcome among privately insured patients was actually worse, with more than double the mortality rate, despite an equal rate of cardiac-related deaths.
7. Overall morbidity and mortality among this cohort of patients undergoing PCI is very low, with the Victorian DHS guidelines serving to MAINTAIN a very good standard of long-term outcome despite limiting use of DES to certain indications.

Discussion/Conclusions

- The Melbourne Interventional Group gratefully acknowledges funding from Astra-Zeneca, Biotronik, Boston-Scientific, Guidant Corporation, Cordis Johnson & Johnson, Pfizer, Servier-Aventis, Denk, Schering-Plough and Terumo. These companies do not have access to the data, and do not have the right to review publications before publication.

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