Abstract: P2814

The long-term patterns of red blood cell transfusion and outcome in patients undergoing percutaneous coronary intervention - A Korean nationwide longitudinal cohort study

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Topic(s):
Coronary Intervention: Outcome

Citation:
Aims Transfusion long after percutaneous coronary intervention (PCI) may pose a significant risk but is not sufficiently understood. We investigated the long-term patterns and impact of transfusion on the clinical outcome of patients undergoing PCI.

Methods and results Five-year clinical outcomes of all Korean undergoing PCI using stent in year 2011 (n=48786) were investigated. Primary outcome was the incidence density of transfusion. The association of transfusion with major adverse clinical event (MACE) consisting all-cause death, revascularization, critically ill cardiovascular status, or stroke was assessed after reflecting the propensity of each patient for transfusion and adjusting transfusion frequency and intervals. The 5-year incidence density of transfusion was 4.74 (95% confidence interval [CI]=4.70–4.79) per 100 person-year. Patients who received transfusion were older, were more often women, and had overall higher frequency of clinical risk factors (p<0.001, all). Transfusion was associated with MACE (hazard ratio [HR]=3.0, 95% CI=2.9–3.1, p<0.001) and with death, revascularization, critically ill cardiovascular status, and stroke (HR from 1.6 to 6.5, p<0.001, all). The period of transfusion coincided with the period of highest MACE incidence density and all other clinical events. Subgroup analyses classified by clinical characteristics showed consistent results.

Conclusions One out of every 4 Koreans undergoing PCI received transfusion within 5 years, and had 3-fold higher risk of MACE compared to patients without transfusion. These observational findings may warrant the establishment of transfusion strategies for patients undergoing PCI.
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Nat at risk

<table>
<thead>
<tr>
<th>First transfusion</th>
<th>MACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>No transfusion</td>
<td>37592</td>
</tr>
<tr>
<td>0 to 6 days</td>
<td>32729</td>
</tr>
<tr>
<td>7 days – 1st year</td>
<td>30527</td>
</tr>
<tr>
<td>2nd year</td>
<td>29089</td>
</tr>
<tr>
<td>3rd year</td>
<td>27735</td>
</tr>
<tr>
<td>4th year</td>
<td>24864</td>
</tr>
</tbody>
</table>

Logrank p<0.001