Patients recruited in the Third China National Stroke Registry (CNSR-III)
N=15,166

Exclusion criteria:
Patients without available complete blood count on admission or lost to follow-up
N=992

Patients included in our analysis
N=14,174

Follow up for 3 months

Follow up for 1 year

Figure S1 Flow diagram.
<table>
<thead>
<tr>
<th>Baseline characteristics</th>
<th>Excluded patients (n=992)</th>
<th>Included patients (n=14,174)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demography and clinical features</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, median [IQR], y</td>
<td>64 [55–72]</td>
<td>62 [54–70]</td>
<td>0.0005</td>
</tr>
<tr>
<td>Female, n (%)</td>
<td>309 (31.15)</td>
<td>4,493 (31.70)</td>
<td>0.719</td>
</tr>
<tr>
<td>BMI, kg/m², median [IQR]</td>
<td>24.36 [22.58–26.36]</td>
<td>24.49 [22.6–26.57]</td>
<td>0.4984</td>
</tr>
<tr>
<td>Current smoking, n (%)</td>
<td>315 (31.75)</td>
<td>4,437 (31.30)</td>
<td>0.7676</td>
</tr>
<tr>
<td>Current drinking, n (%)</td>
<td>165 (16.63)</td>
<td>2,300 (16.23)</td>
<td>0.7375</td>
</tr>
<tr>
<td><strong>Medical history, n (%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous stroke</td>
<td>207 (20.87)</td>
<td>3,148 (22.21)</td>
<td>0.3246</td>
</tr>
<tr>
<td>Previous TIA</td>
<td>22 (2.22)</td>
<td>394 (2.78)</td>
<td>0.2948</td>
</tr>
<tr>
<td>Diabetes</td>
<td>233 (23.49)</td>
<td>3,277 (23.12)</td>
<td>0.7904</td>
</tr>
<tr>
<td>Coronary heart disease</td>
<td>92 (9.27)</td>
<td>1,516 (10.70)</td>
<td>0.1598</td>
</tr>
<tr>
<td>Atrial fibrillation</td>
<td>76 (7.66)</td>
<td>943 (6.65)</td>
<td>0.2201</td>
</tr>
<tr>
<td>Heart failure</td>
<td>8 (0.81)</td>
<td>86 (0.61)</td>
<td>0.4385</td>
</tr>
<tr>
<td>Heart valve disease</td>
<td>6 (0.60)</td>
<td>54 (0.38)</td>
<td>0.2776</td>
</tr>
<tr>
<td>Hypertension</td>
<td>651 (65.63)</td>
<td>8,843 (62.39)</td>
<td>0.0417</td>
</tr>
<tr>
<td>Lipid metabolism disorder</td>
<td>55 (5.54)</td>
<td>1,136 (8.01)</td>
<td>0.0052</td>
</tr>
<tr>
<td>Peripheral arterial disease</td>
<td>8 (0.81)</td>
<td>110 (0.78)</td>
<td>0.9161</td>
</tr>
<tr>
<td>Infection within 2 weeks before admission</td>
<td>25 (2.52)</td>
<td>425 (3.00)</td>
<td>0.3907</td>
</tr>
<tr>
<td>NIHSS score at admission, median [IQR]</td>
<td>3 [2–7]</td>
<td>3 [1–6]</td>
<td>&lt;0.0001</td>
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<tr>
<td>Time from symptom onset to enrollment, median [IQR], h</td>
<td>2 [1–4]</td>
<td>2 [1–4]</td>
<td>0.2923</td>
</tr>
<tr>
<td><strong>Therapy, n (%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intravenous thrombolysis</td>
<td>126 (12.70)</td>
<td>1,404 (9.91)</td>
<td>0.0047</td>
</tr>
<tr>
<td>Endovascular therapy</td>
<td>7 (0.71)</td>
<td>88 (0.62)</td>
<td>0.7435</td>
</tr>
</tbody>
</table>

IQR, interquartile range; BMI, body mass index; TIA, transient ischemic attack; NIHSS, National Institutes of Health Stroke Scale.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Death</th>
<th>Stroke recurrence</th>
<th>3≤ mRS ≤6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
</tr>
<tr>
<td>Leukocyte count, n (%)</td>
<td>82</td>
<td>87</td>
<td>116</td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>1.06</td>
<td>0.78</td>
<td>1.44</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>1.12</td>
<td>0.83</td>
<td>1.46</td>
</tr>
<tr>
<td>Neutrophil count, n (%)</td>
<td>69</td>
<td>80</td>
<td>111</td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>1.16</td>
<td>0.84</td>
<td>1.60</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>1.17</td>
<td>0.84</td>
<td>1.63</td>
</tr>
<tr>
<td>Lymphocyte count, n (%)</td>
<td>179</td>
<td>109</td>
<td>94</td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>0.63</td>
<td>0.50</td>
<td>0.80</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>0.90</td>
<td>0.70</td>
<td>1.16</td>
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<tr>
<td>Monocyte count, n (%)</td>
<td>87</td>
<td>94</td>
<td>99</td>
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<tr>
<td>Crude HR/OR (95% CI)</td>
<td>1.04</td>
<td>0.77</td>
<td>1.40</td>
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<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>1.00</td>
<td>0.74</td>
<td>1.35</td>
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<tr>
<td>Eosinophil count, n (%)</td>
<td>155</td>
<td>92</td>
<td>105</td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>0.58</td>
<td>0.44</td>
<td>0.75</td>
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<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>0.80</td>
<td>0.61</td>
<td>1.06</td>
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<tr>
<td>Basophil count, n (%)</td>
<td>60</td>
<td>228</td>
<td>62</td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>1.06</td>
<td>0.74</td>
<td>1.50</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>1.10</td>
<td>0.77</td>
<td>1.56</td>
</tr>
</tbody>
</table>

mRS, modified Rankin Scale; HR, hazard ratio; OR, odds ratio; CI, confidence interval.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Death</th>
<th>Stroke recurrence</th>
<th>3c mRS ≤6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
</tr>
<tr>
<td>Leukocyte count, n (%)</td>
<td>28 (0.79)</td>
<td>34 (0.96)</td>
<td>46 (1.30)</td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Neutrophil count, n (%)</td>
<td>21 (0.59)</td>
<td>27 (0.76)</td>
<td>44 (1.24)</td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Lymphocyte count, n (%)</td>
<td>86 (2.44)</td>
<td>51 (1.42)</td>
<td>40 (1.15)</td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Monocyte count, n (%)</td>
<td>36 (1.03)</td>
<td>41 (1.15)</td>
<td>46 (1.27)</td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Eosinophil count, n (%)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Basophil count, n (%)</td>
<td>21 (1.10)</td>
<td>109 (1.62)</td>
<td>33 (1.44)</td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
</tbody>
</table>

mRS, modified Rankin Scale; HR, hazard ratio; OR, odds ratio; CI, confidence interval.
Table S4 HRs or ORs and 95% CIs of adverse clinical outcomes at 1-year follow-up by leukocyte count, neutrophil percent, lymphocyte percent, monocyte percent, eosinophil percent, basophil percent

<table>
<thead>
<tr>
<th>Variable</th>
<th>Death</th>
<th>Stroke recurrence</th>
<th>3≤ mRS ≤6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
</tr>
<tr>
<td><strong>Leukocyte count, n (%)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>Reference</td>
<td>1.06 (0.78-1.44)</td>
<td>1.44 (1.09-1.92)</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>Reference</td>
<td>1.12 (0.83-1.53)</td>
<td>1.46 (1.09-1.95)</td>
</tr>
<tr>
<td>Neutrophil percent, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>Reference</td>
<td>1.32 (0.93-1.88)</td>
<td>2.02 (1.46-2.80)</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>Reference</td>
<td>1.24 (0.87-1.77)</td>
<td>1.70 (1.22-2.37)</td>
</tr>
<tr>
<td>Lymphocyte percent, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>Reference</td>
<td>0.43 (0.34-0.55)</td>
<td>0.36 (0.27-0.46)</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>Reference</td>
<td>0.63 (0.49-0.81)</td>
<td>0.58 (0.44-0.76)</td>
</tr>
<tr>
<td>Monocyte percent, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>Reference</td>
<td>0.98 (0.75-1.28)</td>
<td>0.84 (0.63-1.11)</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>Reference</td>
<td>0.96 (0.73-1.26)</td>
<td>0.81 (0.61-1.08)</td>
</tr>
<tr>
<td>Eosinophil percent, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>Reference</td>
<td>0.54 (0.42-0.70)</td>
<td>0.50 (0.38-0.65)</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>Reference</td>
<td>0.77 (0.59-1.03)</td>
<td>0.69 (0.52-0.91)</td>
</tr>
<tr>
<td>Basophil percent, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>Reference</td>
<td>0.79 (0.61-1.03)</td>
<td>0.60 (0.45-0.80)</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>Reference</td>
<td>0.88 (0.68-1.16)</td>
<td>0.73 (0.55-0.98)</td>
</tr>
</tbody>
</table>

mRS, modified Rankin Scale; HR, hazard ratio; OR, odds ratio; CI, confidence interval.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Death</th>
<th>Stroke recurrence</th>
<th>3m mRS &lt;6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
</tr>
<tr>
<td>Leukocyte count, n (%)</td>
<td>28 (0.79)</td>
<td>34 (0.96)</td>
<td>46 (1.30)</td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>Reference</td>
<td>1.20 (0.73–1.99)</td>
<td>1.68 (1.05–2.70)</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>Reference</td>
<td>1.33 (0.80–2.22)</td>
<td>1.75 (1.08–2.85)</td>
</tr>
<tr>
<td>Neutrophil percent, n (%)</td>
<td>17 (0.48)</td>
<td>30 (0.85)</td>
<td>41 (1.16)</td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>Reference</td>
<td>1.60 (0.88–2.91)</td>
<td>2.21 (1.25–3.91)</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>Reference</td>
<td>1.53 (0.83–2.80)</td>
<td>1.81 (1.02–3.22)</td>
</tr>
<tr>
<td>Lymphocyte percent, n (%)</td>
<td>118 (3.33)</td>
<td>38 (1.07)</td>
<td>32 (0.90)</td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>Reference</td>
<td>0.34 (0.23–0.49)</td>
<td>0.31 (0.21–0.47)</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>Reference</td>
<td>0.53 (0.36–0.78)</td>
<td>0.57 (0.38–0.87)</td>
</tr>
<tr>
<td>Monocyte percent, n (%)</td>
<td>57 (1.61)</td>
<td>52 (1.47)</td>
<td>51 (1.44)</td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>Reference</td>
<td>0.81 (0.55–1.20)</td>
<td>0.77 (0.52–1.13)</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>Reference</td>
<td>0.84 (0.56–1.25)</td>
<td>0.81 (0.54–1.22)</td>
</tr>
<tr>
<td>Eosinophil percent, n (%)</td>
<td>98 (2.77)</td>
<td>37 (1.04)</td>
<td>32 (0.91)</td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>Reference</td>
<td>0.40 (0.27–0.59)</td>
<td>0.35 (0.24–0.53)</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>Reference</td>
<td>0.65 (0.43–0.98)</td>
<td>0.55 (0.36–0.84)</td>
</tr>
<tr>
<td>Basophil percent, n (%)</td>
<td>67 (1.89)</td>
<td>61 (1.72)</td>
<td>42 (1.18)</td>
</tr>
<tr>
<td>Crude HR/OR (95% CI)</td>
<td>Reference</td>
<td>0.68 (0.47–0.98)</td>
<td>0.41 (0.27–0.62)</td>
</tr>
<tr>
<td>Adjusted HR/OR (95% CI)</td>
<td>Reference</td>
<td>0.78 (0.53–1.14)</td>
<td>0.55 (0.36–0.85)</td>
</tr>
</tbody>
</table>

mRS, modified Rankin Scale; HR, hazard ratio; OR, odds ratio; CI, confidence interval.
<table>
<thead>
<tr>
<th>Model</th>
<th>C statistic</th>
<th>IDI</th>
<th>NRI (continuous)</th>
<th>NRI (categorical)*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conventional model</td>
<td>0.804 (0.783–0.826)</td>
<td></td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Conventional model + leukocyte count</td>
<td>0.809 (0.788–0.831)</td>
<td>0.067</td>
<td>0.006 (0.004–0.012)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Conventional model + neutrophil percent</td>
<td>0.810 (0.789–0.831)</td>
<td>0.056</td>
<td>0.006 (0.004–0.009)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Conventional model + lymphocyte percent</td>
<td>0.811 (0.789–0.831)</td>
<td>0.042</td>
<td>0.008 (0.005–0.011)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Conventional model + monocyte percent</td>
<td>0.804 (0.783–0.826)</td>
<td>0.734</td>
<td>0.0002 (–0.0002–0.0006)</td>
<td>0.233</td>
</tr>
<tr>
<td>Conventional model + eosinophil percent</td>
<td>0.805 (0.783–0.826)</td>
<td>0.664</td>
<td>0.001 (0.0002–0.002)</td>
<td>0.018</td>
</tr>
<tr>
<td>Conventional model + basophil percent</td>
<td>0.804 (0.783–0.826)</td>
<td>0.762</td>
<td>0.001 (–0.001–0.003)</td>
<td>0.325</td>
</tr>
<tr>
<td>Stroke recurrence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conventional model</td>
<td>0.601 (0.585–0.617)</td>
<td></td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Conventional model + leukocyte count</td>
<td>0.610 (0.594–0.626)</td>
<td>0.004</td>
<td>0.002 (0.0008–0.002)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Conventional model + neutrophil percent</td>
<td>0.614 (0.598–0.630)</td>
<td>&lt;0.001</td>
<td>0.002 (0.001–0.003)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Conventional model + lymphocyte percent</td>
<td>0.613 (0.597–0.628)</td>
<td>&lt;0.001</td>
<td>0.002 (0.001–0.002)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Conventional model + monocyte percent</td>
<td>0.606 (0.590–0.622)</td>
<td>0.082</td>
<td>0.001 (0.0005–0.002)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Conventional model + eosinophil percent</td>
<td>0.604 (0.588–0.620)</td>
<td>0.039</td>
<td>0.0002 (–0.0001–0.0005)</td>
<td>0.127</td>
</tr>
<tr>
<td>Conventional model + basophil percent</td>
<td>0.601 (0.585–0.617)</td>
<td>0.324</td>
<td>0.0007 (–0.0001–0.0003)</td>
<td>0.505</td>
</tr>
<tr>
<td>3≤ mRS ≤6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conventional model</td>
<td>0.798 (0.787–0.809)</td>
<td></td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Conventional model + leukocyte count</td>
<td>0.802 (0.791–0.813)</td>
<td>&lt;0.001</td>
<td>0.006 (0.004–0.008)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Conventional model + neutrophil percent</td>
<td>0.804 (0.793–0.815)</td>
<td>&lt;0.001</td>
<td>0.007 (0.005–0.010)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Conventional model + lymphocyte percent</td>
<td>0.805 (0.794–0.816)</td>
<td>&lt;0.001</td>
<td>0.009 (0.007–0.012)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Conventional model + monocyte percent</td>
<td>0.798 (0.787–0.809)</td>
<td>0.253</td>
<td>0 (0–0)</td>
<td>0.749</td>
</tr>
<tr>
<td>Conventional model + eosinophil percent</td>
<td>0.798 (0.787–0.809)</td>
<td>0.376</td>
<td>0.0005 (–0.0001–0.001)</td>
<td>0.079</td>
</tr>
<tr>
<td>Conventional model + basophil percent</td>
<td>0.798 (0.787–0.809)</td>
<td>0.566</td>
<td>0.0004 (–0.0002–0.0003)</td>
<td>0.693</td>
</tr>
</tbody>
</table>

* Patients were divided into four risk categories by leukocyte count, neutrophil percent, lymphocyte percent, monocyte percent, eosinophil percent, basophil percent. † Conventional model: age, sex, BMI, smoking, drinking, hypertension, previous stroke, lipid metabolism disorders, diabetes, atrial fibrillation, coronary heart disease, peripheral arterial disease, heart failure, heart valve disease, NIHSS at admission, time from symptom onset to enrollment, intravenous thrombolysis, endovascular therapy, antiplatelet agents, anticoagulant drugs, lipid-lowering drugs, hypoglycemic treatment, antihypertensive treatment. IDI, integrated discrimination improvement; NRI, net reclassification index; CI, confidence interval; mRS, modified Rankin Scale; BMI, body mass index; NIHSS, National Institutes of Health Stroke Scale.

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