Ramathibodi Lung Cancer Consortium Model

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Background: Currently, the technologies for investigation, diagnosis, and treatment for lung cancer are advance to improve the survival for the patients. Many investigations will be performed once the patients are suspected to have lung cancer. All processes sometime take a long time to complete investigation before starting the treatment, which may affect the outcomes of treatment.

Objective: To study Ramathibodi lung Cancer Consortium Model.

Method: Ramathibodi Lung Cancer Consortium (RLC) was established in 2014, aiming to help patients access all investigations and treatments faster by seeing patients and planning the treatment together with the multidisciplinary team (MDT) and patient-center with one-stop service system. We conducted RLC meeting every 1st and 3rd Tuesday of the month. As of May 2017, 236 new lung cancer patients were solved all problems by RLC team. We collected and analyzed the data of lung cancer patients between 2 groups. The first group was patients who underwent RLC model (200 cases) and the second group was control group which was patients diagnosed before establishing RLC (81 cases). Our primary endpoint was time from first visit to first treatment. Secondary endpoints were time from first visit to first interventions, number visits from first visit to first treatment, and overall survival (OS).

Results: Median time from first visit to first treatment was significantly decreased in RLC group (14 days) compared to 57 days in control group with HR of 2.93 (95% CI: 2.21-3.89, P<0.001). Median time from first visit to first intervention was also significantly decreased in RLC group (2 days) compared to 11 days in control group with HR of 2.01 (95% CI: 1.53-2.62, P<0.001). Median number of hospital visits was significantly lower in RLC group (2 visits) compared to control group (8 visits). All subgroup analyses showed significantly decreased duration of each investigation and each treatment. In survival analysis, lung cancer patients who underwent RLC model had significantly better mOS compared to control group, especially in stage 3 and 4 disease (mOS = 2.9 vs 0.6 years, HR=0.32 (95% CI; 0.2-0.5, P<0.001)).

Conclusion: RLC model is a very useful model helping lung cancer patients to access treatment and investigations in short period of time and translate to have significantly better survival. RLC model also provides the cooperation in lung cancer research. This model should be applied for all cancer treatment. Working as MDT is the utmost importance for cancer treatment.

Keywords: Lung cancer, Multidisciplinary team, Patient center system, One-stop service
### Table 1A: Primary and secondary outcomes compared between before and after RLC establishment

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Before RLC (control) N=91</th>
<th>Underwent RLC model N = 290</th>
<th>P-value HR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time from first visit to first treatment (median, days)</td>
<td>57</td>
<td>14</td>
<td>&lt; 0.001 (2.93-3.69)</td>
</tr>
<tr>
<td>Time from first visit to first intervention (median, days)</td>
<td>11</td>
<td>2</td>
<td>&lt; 0.001 (2.01-2.62)</td>
</tr>
<tr>
<td>Number visits from first visit to first treatment (mean ± SD, days)</td>
<td>8.0 ± 4.5</td>
<td>2.3 ± 2.7</td>
<td>&lt; 0.001</td>
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</tbody>
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