The result of 5th Japanese Survey of SBRT

1. Fifth survey of SBRT in Japan as of 2016 was performed by JASTRO on Dec 2017.
2. All institutions undertaking SBRT treated lung cancer.
3. 48Gy/4fr was popular for lung cancer, however the dose prescribed point was mostly at the isocenter followed by D95.
4. Prescribed dose and point for liver cancer differed between institutions.
5. Standardization of SBRT prescription is necessary especially for prostate cancer.
6. Total frequency of Grade 5 toxicity decreased down to 0.3% of all cases.

Introduction

- SBRT was started in the late 1990s.
- A questionnaire was sent to the institutes by JASTRO group to confirm the current status of SBRT in Japan in 2017.

5th Japanese Survey by J-CERG

Survey Period: Nov 2017 - Jan 2018
Materials: 331 institutions
Answers: 220 institutions (66.5%)
SBRT: 196 institutions (89.1%)

Treatment Site of SBRT in Japan
All institutions conducting SBRT for lung cancer, 2/3 of answered institutions also treated liver tumors in 2016.

<table>
<thead>
<tr>
<th>Treatment Site</th>
<th># of Institutions</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>196, 100%</td>
<td></td>
</tr>
<tr>
<td>Liver</td>
<td>136, 69.4%</td>
<td></td>
</tr>
<tr>
<td>Prostate</td>
<td>13, 6.6%</td>
<td></td>
</tr>
<tr>
<td>Pancreas</td>
<td>7, 3.6%</td>
<td></td>
</tr>
<tr>
<td>Kidney</td>
<td>16, 8.2%</td>
<td></td>
</tr>
<tr>
<td>Adrenal</td>
<td>15, 7.7%</td>
<td></td>
</tr>
<tr>
<td>Spine</td>
<td>20, 10.2%</td>
<td></td>
</tr>
<tr>
<td>Lymph Nodes</td>
<td>14, 7.1%</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>2, 1.0%</td>
<td></td>
</tr>
</tbody>
</table>

*Multiple answers are included.

Prescription of Lung SBRT in Japan
48Gy/4fr is adapted by most institutions for lung cancer T1N0M0 (left figure). Prescription method of 48Gy varied in the right figure.

Prescription of Liver SBRT in Japan
40Gy/5fr was adapted by most institutions for HCC (left figure). Prescription method of 40Gy varied in the right figure.

1. Radiation pneumonitis 62 (41, 42, 28)
2. Pulmonary bleeding 4 (3, 3, 3)
3. Liver failure 0 (2, 0, 0)
4. Radiation esophagitis 2 (1, 1, 1)
5. Gastrointestinal bleeding 3 (0, 0, 0)
6. Others 3 (6, 5, 4)
(Pericarditis, Gastric ulcer, Aneurysmal rupture)
Grade 5 frequency: 74/23,655 = 0.3% (0.3%, 0.5%, 0.6%)

Clinical Trial JCOG 1408 (J-SBRT trial)
A randomized phase III trial of comparing two dose-fractions stereotactic body radiotherapy (SBRT) for medically inoperable stage IA non-small cell lung cancer
or small lung lesions clinically diagnosed as primary lung cancer

Appreciation

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