**Introduction**

Photodynamic therapy (PDT) is widely applied for non-melanoma skin cancer treatment. However, long stays in the hospital to perform the treatment have been disadvantageous to the patient and medical routine as well. The main goal of this study was to develop an efficient single visit protocol in which the second irradiation could be performed at home.

**Material and methods**

- **Cream:** 20% methyl aminolevulinate hydrochloride (MAL, PDTPharma, Brazil)

- **1st irradiation – hospital:** 150 J/cm², 20 min using commercial device LINCE (MMOptics, Brazil)

- **2nd irradiation – home:** protocols A, B, C using the portable prototype irradiation (2 AA batteries – irradiance decays with time)

**Results**

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Patients</th>
<th>Cure Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>8</td>
<td>87.5%</td>
</tr>
<tr>
<td>B</td>
<td>11</td>
<td>63.6%</td>
</tr>
<tr>
<td>C</td>
<td>16</td>
<td>85.7%</td>
</tr>
</tbody>
</table>

![Figure 1. Representative images of the PDT irradiation using A) the commercial device (LINCE) and B) the portable irradiation prototype.](image)

![Figure 2. Number of patients treated and the cure rate estimated for each protocol considering the biopsy results.](image)

- ✓ Most of the patients reported less pain in the irradiation performed at home than in the hospital.
- ✓ The cure rate of protocols A and C were similar to the standard protocol (two irradiations using LINCE system).

**Conclusions**

Most of the patients with BCC are elderly people presenting other comorbidities, the shorter they stayed in the hospital is better especially considering pandemic times. Using the portable irradiation prototype was possible to offer a less painful and more comfortable treatment. This pilot study results allowed establishing a safe and efficient protocol to start a randomized clinical trial.