The feasibility of psychological interventions for reduce the need of anesthesia during radiotherapy in <5 yr pediatric patients with CNS malignancies

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Aim

To target the tumor precisely, we commonly use anesthesia to help children keeping still in exact position during radiotherapy. The aim of this study was to explore the psychological intervention to reduce the use of sedatives in children when undergoing radiotherapy.

Materials & methods

From January 2017 to December 2018, 53 pediatric patients, without limited consciousness, from 3 to 5 years old diagnosed with brain tumors and admitted to radiotherapy at the oncology centers of Guangdong Sanjiu Brain Hospital, received the systematic intervention (including desensitization, simulation play practice, distraction, etc.) to reduce medical fear for radiotherapy.

A case-control study of semi-structured and play-based interventions was undertaken for psychological preparation of young children during radiotherapy.

Results:

Table 1. A total 53 children

<table>
<thead>
<tr>
<th>Method</th>
<th>Materials</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Desensitization</td>
<td></td>
<td>Children play doctors and patients games about radiotherapy</td>
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<tr>
<td>Simulation play practice</td>
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<td>Practice before radiation therapy can improve a child’s coordination</td>
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<tr>
<td>Distraction</td>
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<td>Let kids relax by telling stories or playing cartoons</td>
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<tr>
<td>Reward</td>
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<td>The children will receive a sticker as a reward when he successfully completes a radiotherapy. After receiving a certain amount of stickers, children can use these stickers to get a toy in return.</td>
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</table>

Compared with the success rate of the 3-year-old group (84.21%), psychological interventions were more appropriate for the 4-year-old group (94.12%) and 5-year-old group (100%). For those failed cases, 2 children aged 3 used anesthesia during the whole radiotherapy sessions; 2 children aged 3 and 4 took sedatives in the early session of radiotherapy.

No psychological intervention  With psychological intervention

Conclusions:

- This study suggested that psychological intervention was able to improve the adherence of pediatric patients to the whole treatment course and reduce the occurrence of drug resistance due to non-compliance.
- Also, children and their family showed more positive experiences and feeling toward the psychological intervention for the treatment.

References: