Radiation Therapy for Head and Neck Cancers: Challenges and Practical Approaches

Prof. Jankarashvili, thank you very much for taking the time to speak with us.
Could you explain the role of radiotherapy in the treatment of head and neck cancers?

Radiotherapy (RT) is a cornerstone in the treatment of head and neck cancers. In many cases, it can be used as the primary treatment on its own. It may also be combined with chemotherapy or administered after surgery to minimize the risk of recurrence.
RT is usually delivered on an outpatient basis. Each session, called a fraction, typically lasts 7 to 10 minutes. The procedure is straightforward and generally well tolerated, causing little to no discomfort.
Patients come to the clinic daily for their sessions and return home the same day, making the treatment both convenient and manageable.

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What are the most common side effects or complications of RT in patients with head and neck cancers?

The course of RT for head and neck cancers is usually long, typically lasting around 6 to 7 weeks. This is because high doses of radiation are required to effectively target the cancer in this area, which results in a prolonged treatment period.

In general, the side effects of RT can vary depending on several factors: which part of the body is being treated, the daily and total radiation dose, whether other treatments such as chemotherapy are given concurrently, and each patient's individual response to therapy.
For head and neck cancers, the most common side effects after RT involve the skin and mucous membranes in the treated area.

Patients may experience irritation, which can make chewing and swallowing more difficult, as well as discomfort on the skin where the radiation is applied. Hair loss may occur in the treated area; commonly in men, this affects the beard region. Other frequent effects include changes in taste and dry mouth.
When RT is combined with chemotherapy, these side effects can be more pronounced and may be accompanied by general symptoms such as fatigue, nausea or vomiting, reduced appetite, and, in some cases, changes in blood test results. The combination of treatments can intensify the side effects of RT.
It is important to note that although these side effects can be uncomfortable, they are generally

not dangerous and are usually reversible if the patient carefully follows the doctor's recommendations.

Before starting RT, patients are given guidance on nutrition and are prescribed products to protect the skin and the mucous membranes of the mouth and throat. These measures help prevent or minimize side effects. Patients are also advised to avoid smoking and drinking alcohol during treatment.

During this period, it is essential for patients and their families to understand the importance of proper care and to strictly follow medical instructions. Failure to adhere to the prescribed regimen can worsen the patient's condition and may even necessitate interrupting treatment, which can negatively affect the overall prognosis.

In most cases, side effects can be managed at home. However, in rare situations where it becomes difficult to monitor the patient's condition at home, the patient may be admitted to the hospital for a few days to stabilize their condition and ensure that treatment can be completed successfully.

When would a patient require re-simulation and replanning of their RT treatment?

Most head and neck cancers are highly sensitive to RT. One of the main reasons a new treatment plan, or replanning, may become necessary during the course of RT treatment is a significant reduction in tumor size.

RT requires millimeter-level precision, which is achieved with cutting-edge technology. When the tumor shrinks, it alters the patient's anatomy and the radiation target area.

To maintain the highest possible accuracy, a new treatment plan is made, and RT continues according to the new plan.

In some cases, it may be necessary to replan the treatment more than once during the course of RT.

Another reason for replanning can be weight loss, which also changes anatomical structures and necessitates a new treatment plan.

"Most head and neck cancers are highly sensitive to radiotherapy, and active patient involvement and awareness can significantly improve treatment outcomes"

Could you please share your experience with the use of nasogastric tubes?
In what circumstances are they typically indicated, and are there strategies to minimize the duration of their use?

As is well known, nasogastric tubes are required for patients with impaired oral intake. In oncology patients, this may be due to a tumor obstructing the swallowing pathway or treatment-related side effects that make swallowing difficult or cause severe loss of appetite.

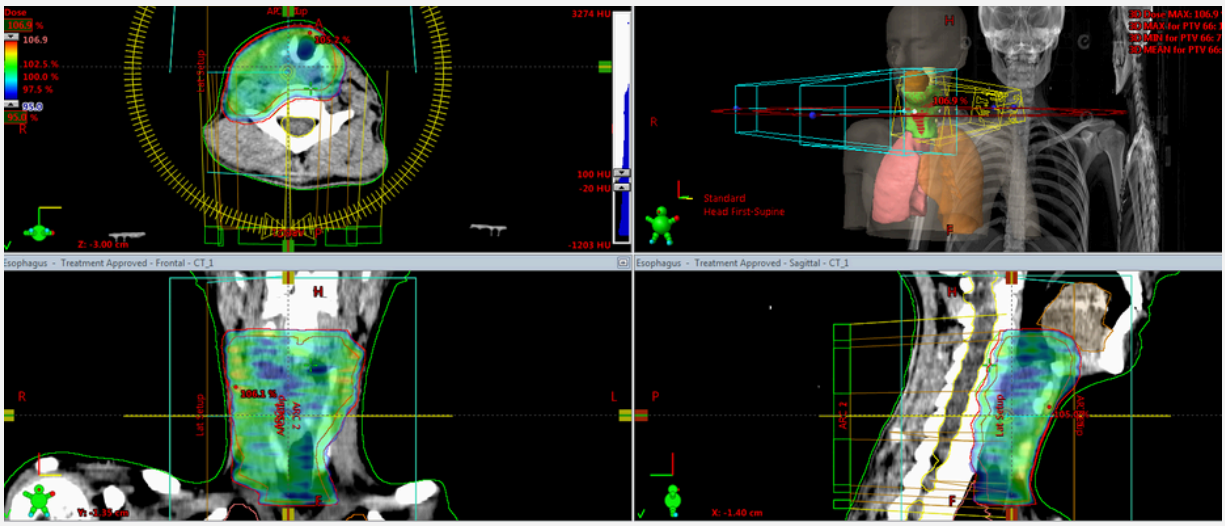
As I mentioned earlier, RT is a long course of treatment, typically lasting around 6 to 7 weeks. Its side effects can persist for some time even after treatment ends, usually for 2 to 6 weeks.

Nasogastric tubes can cause significant discomfort in daily life, especially for patients experiencing RT side effects, so we don't use them unless there is a clear medical indication or absolute necessity. Instead, patient care is managed through various infusions and orally administered medications whenever possible.

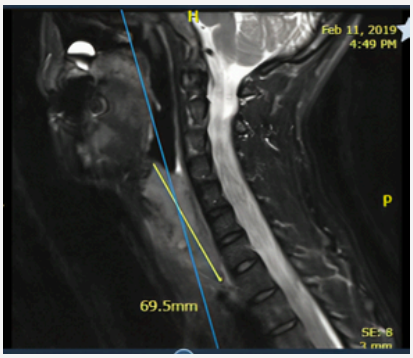
How important is it to educate patients about the potential side effects of their treatment, and how does their active involvement contribute to better therapy outcomes?

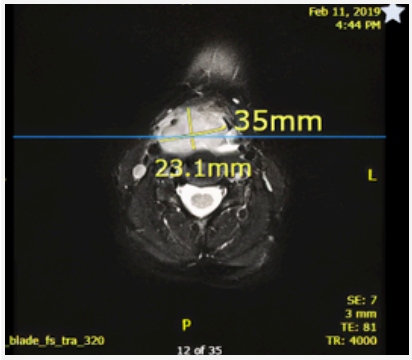
38-year-old female patient with Squamous cell laryngeal cancer, G3, cT4N0M0.

Radiation dose distribution according to the treatment plan

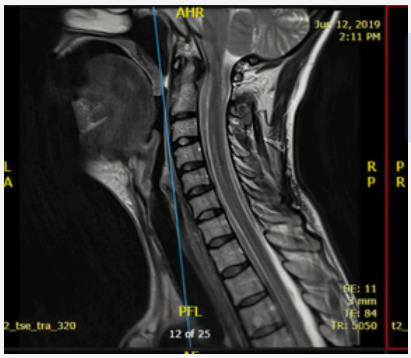


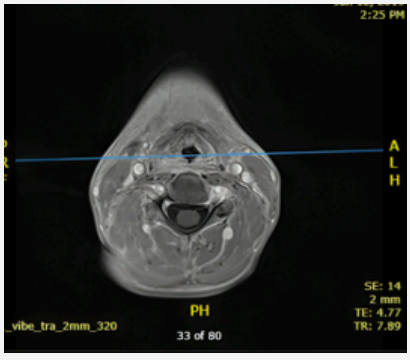
Baseline MRI prior to radiotherapy





MRI at 2-month follow-up after RT





Complete Response to RT

Endoscopy at 2-month follow-up after RT

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This is one of the most important aspects of treatment. The physician is responsible for providing the patient with complete information about the duration of RT, potential side effects, and strategies for managing them.

At the same time, the patient and their family share the responsibility of following all medical instructions to ensure that treatment proceeds as smoothly and effectively as possible.

Of course, there are cases in which patients do not adhere to medical recommendations. In such situations, it can be difficult, or sometimes even impossible, to carry out treatment safely and effectively.