

Causes of unplanned interruption of radiotherapy

Causas da interrupção não-programada da radioterapia

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The usual external beam radiotherapy fractionation schedule consists of daily sessions five days a week, over a period of five to eight weeks. The current medical conduct is based on this periodicity, resulting in foreseeable healing and toxicity rates^(1,2). The overall treatment time in case of combined radiotherapy/brachytherapy, particularly for treating uterine cervix cancer, also affects the outcome of these treatments⁽³⁾.

The significance of radiotherapy interruption, either for treatment toxicity, technical problems in equipment maintenance or breakdown, or for operational and socio-economic difficulties, is well documented in several scientific papers, reporting harmful effects on the treatments outcomes, especially in cases of highly prevalent tumors such as head & neck and uterine cervix cancers⁽¹⁻³⁾.

Preventive maintenance of radiotherapy equipment, taking at maximum two working days every three months, in association with an appropriate logistics for spare parts inventory, is essential for avoiding long-lasting treatment interruptions⁽⁴⁾. This issue has effectively been resolved by the pressures from the market, considering that only equipment manufacturers providing high quality technical support and minimizing downtime for technical reasons, can remain active

Operational and socio-economic difficulties have been discussed in the press (newspaper *Folha de S. Paulo*, March 26, 2008), where delayed treatment initiation is reported, including in reference centers for cancer treatment. Although the delay in the treatment initiation cannot be considered as an unplanned interruption, its occurrence leads to the disease progression, resulting in the worsening of outcomes and increase in morbidity. Additionally, it is worthwhile to note that, generally, low socio-economic level patients live far away from radiotherapy centers, many times requiring financial support to attend treatment sessions on a regular basis, the lack of this financial support being determining factors for frequent non-attendance and treatment abandonment.

From the medical point of view, aggressive schemes of combined radiotherapy/chemotherapy may also lead to interruptions because of the treatment toxicity. A multidisciplinary approach of the oncological treatment, in compliance with appropriately structured standards and protocols, and a proactive clinical support is essential, considering the minimization of the risks from this type of event and the more severe complications which might affect the outcomes in terms of healing rates, as well as decreasing the quality of life of the patients⁽⁵⁻⁸⁾. Another aspect to be taken into

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consideration is represented by the technological developments in radiotherapy, which may reduce the incidence of side effects, contributing for the treatment success with a higher tolerance by the patients and a lower rate of interruptions and consequential higher risk for sequelae⁽⁷⁻⁹⁾.

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