

Some considerations about radiation proctitis

Algumas considerações sobre a retite actínica

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The article "Rectal dose assessment in patients submitted to high-dose-rate brachytherapy for uterine cervix cancer" published in the present issue of **Radiologia Brasileira** deals with a relevant theme currently discussed in radiotherapy and oncology.

Radiation proctitis is condition of the rectum caused by ionizing radiation. It may be acute (arising during or right after radiation therapy), and in these case is generally self-limited. Symptoms of acute proctitis are diarrhea, eventual bleeding, mucus loss or constipation.

Histological changes are limited to the mucosa, and the cells with a more rapid turnover are the most sensitive ones.

Late radiation proctitis may occur up to two years after radiation therapy with more severe symptoms: mucus loss, pain, rectal urgency, bleeding, ulceration, stenosis and even rectovaginal fistulas. In late radiation proctitis, histological findings correspond to changes of vascular nature and fibrosis of the subintimal layer.

Radiation proctitis severity is directly proportional to the dose received and dose volume, as well as to the number of fractions and the length of the interval between them. It is this dose limitation (both in radiotherapy and chemotherapy) that produces better or worst results in the management of cancer.

Radiation proctitis has been known for more than one century, but factors determining a worsening in the prognosis such as association with other diseases (diabetes, hypertension, collagen diseases, etc.) have only recently been confirmed.

Wherever possible, the treatment for radiation proctitis should be conservative. In the acute phase of the disease, symptomatic medication is generally enough to relieve the symptoms. The discomfort can be relieved with corticoid retention enema, besides the utilization of sulphasalazine. Major bleedings can be managed with argon laser therapy. Although criticized by some authors, the utilization of hyperbaric oxygen therapy may also be useful. Colostomy should be the last resource to be adopted, in most resistant cases⁽¹⁻⁴⁾.

So, considering the wealth of symptoms and the difficulty in the management of radiation proctitis, this complication should be avoided at maximum, without impairing the tumor management.

How to do it?

Up to few years ago, brachytherapy applicators were preloaded with radioactive seeds with a known activity. The applicator was introduced and, even if the dose distribution was not the ideal, there was nothing to do but observing.

Early in the 1970's, afterloading applicators were introduced. With the applicators in place, "phantom" sources were introduced, and calculations were performed for

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determining the better dose distribution, that is to say, the distribution which allowed the highest dose to the tumor and a minimum dose to adjacent healthy structures. With this approach, the rate of complications was considerably reduced⁽⁵⁻⁷⁾.

Nowadays, the system fundamentals are the same, except for the incorporation of information technology to the process, in association with the utilization of high-dose-rate isotopes, allowing much faster and more accurate procedures^(8,9).

Notwithstanding, as explained in the above mentioned article, it is necessary that data resulting from the calculations match those effectively applied.

Frequently, for economic and time reasons, these processes fail to be accomplished, and the result is the occurrence of the above described complications.

The following data should be stressed:

1 – Late radiation proctitis only occurs in patients who have been healed of a primary neoplasm, considering the time required by the complication to appear.

2 – Late radiation proctitis is not a curable disease although it can be managed with the above described practices.

3 – The development of new applicators, isotopes and techniques will result in decreased rate of complications.

It may be concluded that further studies are required for determining a dose distribution to achieve an appropriate tumor/healthy tissue ratio.

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