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INTRODUCTION

The treatment of cervical cancer is multimodal and encompasses surgery, external radiotherapy, brachytherapy and chemotherapy. Pelvic radiotherapy is indicated as a primary treatment option or part of this treatment at all stages from IA2. There is still indication of external radiotherapy as adjuvant, rescue or treatment directed to distant metastases in various circumstances. Radiotherapy can have significant adverse effects that can be divided between acute and chronic ones and can be related to the development of hypoxia. The main symptom of presentation of chronic radiation induced cystitis is hematuria, which can be a result of the development of new vasculature in the bladder mucosa. Hypoxia Inducible Factor (HIF) associates with specific nuclear cofactors under hypoxia to activate genes for adaptive responses to low oxygen tensions that includes angiogenesis.

OBJECTIVES

Primary objective

To analyze the expression of HIF and VEGF in fragments of tissues collected by bladder biopsies of patients with uterine cervix cancer submitted to radiotherapy treatment versus normal tissue.

Secondary Objectives

Relate the expression of HIF and VEGF to the intensity of the histological alterations of the analyzed tissue related to the radiation; to the endoscopic findings found, according to the RTOG / EORTC system; to adverse event data related to oncological treatment according to the CTCAE version 4.0 system and to the radiation doses employed.

MATERIAL AND METHODS

The present study will have case-control design. The expression of HIF and VEGF in a tissue fragment collected by endoscopic bladder biopsy will be evaluated, comparing patients submitted to pelvic radiotherapy for treatment of cervical cancer with patients without previous pelvic radiation.

Inclusion criteria

- ❖ Patients who signed the Informed Consent Form.
- ❖ Patients treated for cervical cancer, submitted to external radiotherapy at the Cancer Hospital I / INCA from January to December 2014. As a control group, we will evaluate patients with cervical cancer before treatment, submitted to endoscopic urological evaluation at the time of its staging.
- ❖ Histology of epidermoid carcinoma or adenocarcinoma.
- ❖ Available records for data collection (clinical characteristics, treatment details).

EXPECTED RESULTS

Since under low oxygen tensions HIF alpha escapes hydroxylation and interacts with transcriptional coactivators to regulate the cellular adaptive response to hypoxia, including glycolysis, angiogenesis and erythropoiesis, and since hypoxia is a well-known result of tecidual radiation, it can be expected that the increase in vascular proliferation in the bladder of irradiated patients be at least in part explained by the increased activity of HIF.