

Analysis of Actinic Effect after Radiotherapy in the Uterine Col Carcinomas

Cátia Martins Leite Padilha^{1,2,5}; Gláucio Diré Feliciano^{2,3}; Lucas Gomes Padilha Filho^{2,4,5}

1. Instituto Nacional de Câncer, Rio de Janeiro / Brasil.
 2. Universidade Estácio de Sá. Rio de Janeiro / Brasil.
 3. Universidade do Estado do Rio de Janeiro / Brasil.
 4. Universidade Federal do Rio de Janeiro / Brasil.
 5. Fundação Técnico-Educacional Souza Marques. Rio de Janeiro / Brasil.
- E-mail: catiapadilha@terra.com.br

Abstract: The boarding more effective for the control of the cancer of the uterine col is the precocious diagnosis. However a great number of malignant tumors are identified in very advanced periods of training, reflecting the lack of access to the preventive examination. The control of the effectiveness of the treatment for radiation if makes with the colpocytological analysis, where it is possible to follow the patients, detecting residual or recurrent tumors, allowing in skillful time, the administration of therapies you add. This work had as objective: the identification of the frequency of examinations, with presence of epithelial cells presenting radiotherapeutically effect and the evaluation the evolution, through the colpocytological, of cases with uterine col cancer treated with radiation. For the election of the group of study of the present work, a survey of the citopathologic examinations of control was made after-x-ray, of the 270 patients, through the archive of the Division of Pathology/DIPAT of the National Institute of the Cancer, 112 patients had been excluded, for diverse reasons. The total of colpocytological carried through for the 158 patients, of this retrospective study, was of 307, varying of 2 the 6 examinations for each patient, in a space of 18 months. The diagnostic had been separate in five Groups. Group: Cells with effect of actinic nature, absence of malign stage. Group B: Negative for malign stage, normal cytological examination. Group C: Atypical cells with radiotherapeutically effect, displasia after-irradiation? (suggestive of return). Group D: Positive for malign stage. Group E: Unsatisfactory material and/or inconclusive. Results: Group - 68.73%, followed of Group C – 15.30%; Group B – 11.73%; Group and - 2.61% and finally Group D with 1.63%, which represents the positive cases. The evolution of the cases of control, after-x-ray, showed that 81.25% had kept the diagnostic. 12.50% had passed of suspicious to negatives; 6.25% of suspected negatives for and did not have none case that evolved of negatives/suspicious for positives. The last diagnostic had been considered only first and. On the basis of the analysis of the control cite-diagnostic after-x-ray, was possible to conclude that the great majority (81.25%) had kept the result. In 86.07% of the cases, the result was of the Group and the B (negative for malign stage, with presence and absence of cells c actinic effect, respectively). Our treatment got an excellent index of tumoral reply, exactly being the prognostic directed only to the patients of the study. [The Journal of American Science. 2005;1(1):17-23].

Key Words: analysis; actinic; radiotherapy; uterine; col; carcinomas

1. Introduction

According to Health department, in Brazil, enters the death causes, the cancer appear in according to place, representing a 15% tax. Analyzing the projection of the National Institute of the Cancer in 2003 it was observed that the uterine col cancer comes reaching as the place in the feminine population (Figure 1), however the Registers of

Cancer of Base Populacional (RCBP), with consolidated information sample that the uterine col cancer was the tumor most incident in the cities of Belém and Goiânia and as the more incident tumor in Fortaleza, Campinas and Porto Alegre^{1,2,3,4,5}.

In the world-wide scale, malignant uterine col tumors correspond to the second more frequent feminine neoplasia and the index of deaths if it shows

decreasing, due to precocious detention and the institutions that take care of adequately of the therapeutical processes^{6,7,8}.

Despite the knowledge each acquired bigger time through innumerable research in the whole world, the boarding more effective for the control of the uterine

col cancer, is the precocious, possible diagnosis through the citopathology examination - known popularly as test of Papanicolaou. This examination is painless, cheap and efficient, being perfectly possible to detect intra-epithelial injuries and to cure them before if becoming cancer^{5,9,10,11,12}.

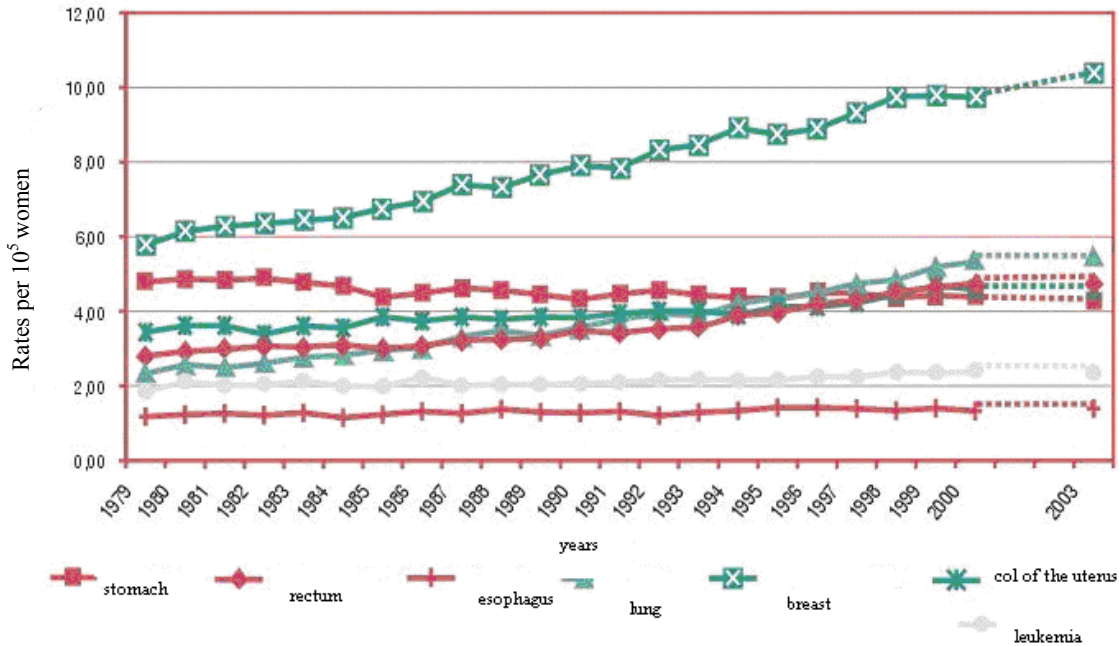


Figure 1: Rude taxes of mortality for 100.000 women for the tumors most frequent, Brazil, 1979 - 2000 and projection 2003

The treatment for a cervical intra-epithelial injury depends on some factors that include the fact, of the patient to desire to have children, age and general health. A patient with injury of high degree cannot need additional treatment, especially if the abnormal area completely was removed during the biopsy, but it must carry through a test of regularly carried through Papanicolaou and a pelvic examination. When the injury requires a treatment, the doctor will be able to use destructive therapies as the criochirurgical (freezing), cauterization (burning, also diathermia call), or laser (surgery to destroy the abnormal area without damaging the fabric healthy adjacent). However, a great number of diagnosis is made when the tumors are in periods of training very advanced, reflecting the lack of access to the preventive examination, for difficulties in long-distance relation, ignorance or even though disinformation. The supervened average of the women diagnosis with uterine col tumors, classified as stadiums IIB (classification according to FIG/

Fédération Internationale de Gynécologie et d'Obstétrique) in ahead, for example, that they make the conventional treatment for pelvic x-ray, turns around 40%. The control of the effectiveness of the treatment for radiation if makes with the colpocytological analysis, where it is possible to follow the patients, detecting residual or recurrent tumors, allowing in skillful time, the administration of added therapies^{8,13,14,15,16}.

Although the cellular alterations provoked by the action of the ionizing radiation well are told in literature and are of great relevance, in some countries of the world, our Country still have great necessity of more studies. The cytological evaluation of the actinic effect deserves great attention and training, for account of the importance in the therapeutical control of the patients after-x-ray^{17,18,19,20,21,22,23}. This work had as objective: the identification of the frequency of examinations, with presence of epithelial cells presenting radio therapeutically effect and the

evaluation the evolution, through the colpopathology, of cases with uterine col cancer treated with radiation.

2. Material and Methods

2.1 Characteristics of the Sample

In July of 2003, through the folder of archive, in the Service of Gynecology of the Hospital of Oncology (HC II/INCA), had been catalogued the patients with scale carcinoma of uterine col, directed

to the x-ray, in the period of January the July of 2000, representing a total of 270 patients. All the cases had cytological examination confirmed by the biopsy, before the treatment. In accordance with the registers, in the great majority of the directed patients, the tumors were local advanced; the clinical assistance was carried through on the basis of the rules of the FIGO (*Fédération Internationale de Gynécologie et d'Obstétrique*) is demonstrated (Table 1).

Table 1. Clinical assistance, according to FIG of each patient

STAGE OF THE FIGO	NUMBER OF CASES	% OF CASES IN EACH CLINICAL STAGE
Stage I	---	---
IA	---	---
IA1	---	---
IA2	---	---
IB	19	7.04
IB1	---	---
IB2	03	1.11
Stage II	03	1.11
IIA	02	0.74
IIB	109	40.37
Stage III	01	0.37
IIIA	01	0.37
IIIB	124	45.93
Stage IV	01	0.37
IVA	06	2.22
IVB	01	0.37

2.2 Election of the Patients

For the election of the group of study of the present work, was made a survey of the citopathological examinations of control after-x-ray, of the 270 patients, through the archive of the Division of Pathology/DIPAT of the National Institute of the Cancer. Later, it had the analysis of handbooks of the cases which had colpocitologia of control, for attainment of excellent data. 90 patients for not possessing no cytological finding of control had been excluded after-x-ray, in the archives of INCA, 06 for not returning and 16 for arriving at the death. The total of colpocytological carried through for the 158 patients, of this retrospective study, was of 307, varying of 2 to 6 examinations for each patient, in a space of 18 months. The first colpocytological of control after-x-ray, of each patient, after had an interval of 3 to the 6 months the ending of the treatment.

Considering that the frequency of examinations, carried through after-x-ray, varied of patient the patient; the concrete analysis was made through the result of last examination of control, what it reflects the situation of the evolution of the patients until November of 2003. The diagnostic had been separate in five Groups. Group: Cells with effect of actinic nature, absence of malign aspect. Group B: Negative for malign aspect, normal cytological examination. Group C: Atypical cells with radiotherapists effect, displasia after-irradiation? (Suggestive of return). Group D: Positive for malign aspect. Group E: Unsatisfactory material and/or inconclusive. (Figures 2-8).

2.3. Results

The ages of the patients had varied of 35 the 88 years, with average of 59.5 years. Of all the carried through colpocytological examinations, were observed that more of the half of the diagnostic they

were of the Group - 68.73%, followed of Group C – 15.30%; Group B – 11.73%; Group and - 2.61% and finally Group D with 1.63%, which represents the positive cases, as Table 2.

Table 3 demonstrates to the result of the last colpocytological examination of control after-x-ray of each group.

The evolution of the cases of control, after-x-ray, is represented in (Table 4), where the percentage of each diagnosis is demonstrated, considering only first and the last diagnosis.

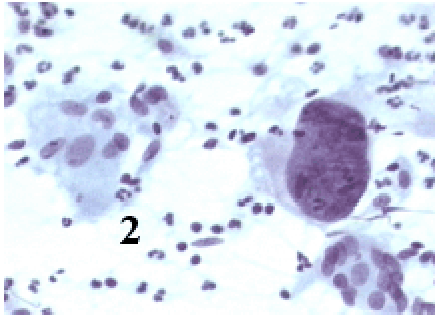


Figure 2. It appears: Great nuclear increase, however chromatin if keeps homogenia.

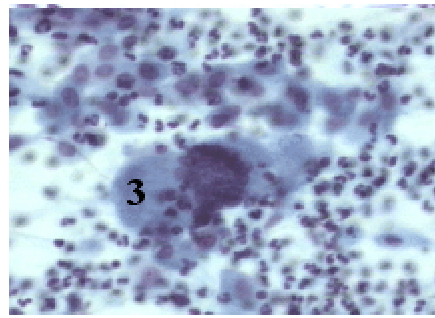


Figure 3. Multinucleada cell. It notices. the infiltrated presence of leukocyte. Images gotten f the archive of blades of the Division of Pathology/INCA. Note a presença de infiltrado leucocitário. Imagens obtidas do arquivo de lâminas da Divisão de Patologia/INCA.

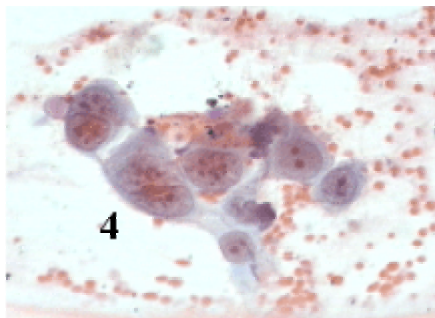


Figure 4. Multiple presences of macronucleus and nucleus.

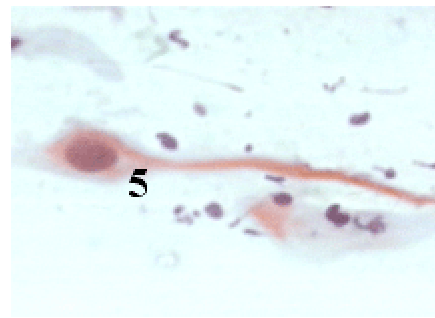


Figure 5. Cell bizarra. It notices the infiltrated presence of leukocyte. Images gotten of the archive of blades of the Division of Pathology/INCA.

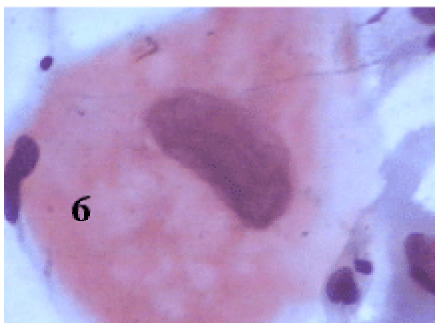


Figure 6. Presence of macrocitose (great cellular increase).

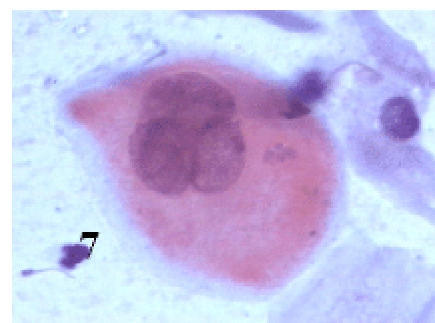
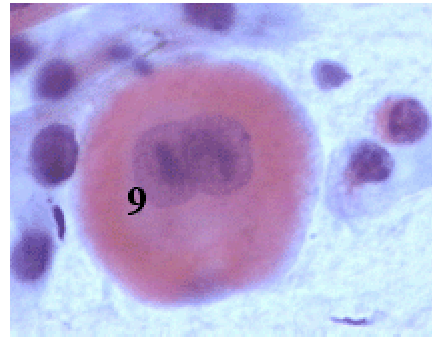
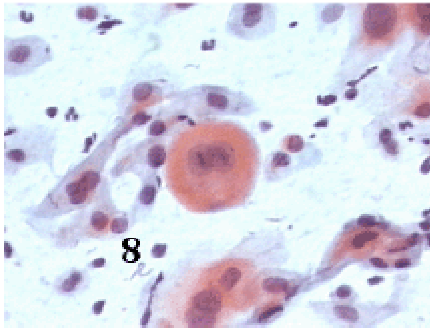


Figure 7. Macrocitose and multinucleation. Images gotten of the archive of blades of the Division of Pathology/INCA.



Figures 8 and 9: They represent field of the blade the same, with different increases. Presence of cell with binucleation and inclusion to intranuclear type "owl eye". Images gotten of the archive of blades of the Division of Pathology/INCA.

Table 2. Diagnostic of each group, all the colpocytological examinations carried through after-x-ray.

<i>Groups of the diagnostic</i>	<i>Findings with each diagnosis</i>	<i>Frequency of the cases (%)</i>
<i>Group A</i>	211	68.73
<i>Group B</i>	36	11.73
<i>Group C</i>	47	15.30
<i>Group D</i>	05	1.63
<i>Group E</i>	08	2.61

Table 3. Diagnostic of each group, the last colpocytological examination, control after-x-ray.

<i>Groups of the diagnostic</i>	<i>Findings with each diagnosis</i>	<i>Frequency of the cases (%)</i>
<i>Grupo A</i>	118	74.68
<i>Grupo B</i>	16	11.39
<i>Grupo C</i>	18	10.13
<i>Grupo D</i>	03	1.90
<i>Grupo E</i>	03	1.90

Table4 . Evolution of the control cases after-x-ray.

<i>Evolution</i>	<i>% of cases</i>
<i>kept the diagnostic</i>	81.25
<i>Suspected for negatives</i>	12.50
<i>Negatives for suspected</i>	6.25
<i>Negatives / suspected for positives</i>	00

2.4 Discuss

The radiated cells show some citochemical alterations that can be due to enzyme release for the cytoplasm destruction of organelles. The increase of the RNA synthesis occurs to nucleolus followed for the reduction of the synthesis of the DNA. Small doses of radiation can intermittently intervene with the production of messenger RNA e, therefore, to diminish the protein synthesis. Great doses inhibit the DNA synthesis and can take the irreversible damages in the nuclear DNA. The mitotic activity can be suppressed temporarily. Chromosomal and genetic abnormalities can be observed and occasionally to result in loss of the ability of if dividing while the nuclear and cytoplasm metabolism continues^{20,24,25}. According to Shuheko et al, the cytology showed to be good method of control of uterine col cancer treated by x-ray, therefore in accordance with its studies, had not had cases false-positives and nor false negatives^{21,22}.

The pursuing through the col cytological is important, mainly in the two first immediate years to therapeutically, since 50% of the recurrences are detected in the first year of pursuing, 85% with two years. In five years of pursuing, 95% of the returns will have been detected. Some groups of patients can after benefit with a systematic pursuing the treatment^{9,10,21,22}.

Campos has observed that the identification of malignant cells to the end of the treatment indicates that the tumor was not sterilized, while that its absence always does not mean activity lack, therefore can be had carried through a local sterilization of the tumor while persists in lymphatic or parametric ganglia. More than 80% of the patients were

menopause, however 60% of the vaginal smears were observed little more than were atrophic²⁶. In accordance with some studies, the return occurs precociously during the pursuing and, about 85% of these patient ones they go the death in two years. Our findings show that before the pursuing, 0.6% of the patients had arrived at the death^{27,28,29,30}. According to Teixeira et al, only 24% of the patients who had had complete reply to the x-ray had come back to have tumoral activity, mainly in the two first years of pursuing, evidencing that the therapeutically reply it could be used as parameter for the prognostic definition in advanced cases¹⁶.

3. Conclusion

On the basis of the analysis of the control cite-diagnostic after-x-ray, was possible to conclude that the great majority (81.25%) had kept the result. In 86.07% of the cases, the result was of the Group and the B (negative for malign stage, with presence and absence of cells c actinic effect, respectively). The treatment got an excellent index of tumoral reply, exactly being the prognostic directed only to the patients of the study. The analysis of the evolution, through the colpocytological disclosed a small index of cases with actinic effect (negative for malign stage) that the return cases had evolved suspicious - displasia after-irradiation (6.25%), and accurately the double of this value (12.50%), they were suspected and they had become negative. The result of the last examination of control disclosed an increase in relation to the total of examinations of the diagnostic of the Group (5.95%), and a discrete reduction in group B (0.34%), which are negative, the first ones, with effect, actinic and as without evident actinic effect. It had a reduction of 5.17% in the diagnostic number of Group C. Group D a discrete reduction - 0.27% and the diagnostic of the Group and, a 0.71% increase.

The accompaniment of the patients must be made through the colpocytological examination, approximately 6 weeks after the treatment for radiation, with semester harvests in the 3 first years and after that annual, in case that it does not have return suspicion, thus preventing, any possibility of unsatisfactory materials for the reading, beyond negative false results, since the cytological criteria, continue, for times, subjective. It is of great relevance

that the study continues, using others diagnostic techniques, as immunohistochemical and cytogenetically, in the search of new markers that could differentiate the recidivates injuries of the actinic effect. Therefore the morphologic aspects are only insufficient, in some cases, to affirm a positive or negative diagnosis, without the necessity of the evolution accompaniment of the alterations, through annual the semester colpocytological.

This comparative study it would search the evaluation of the values predictive-positives and predictive-negative, having been able to make possible the reduction of the cases false-positives and false-negative, therefore method in study is, for times, limited.

Correspondence to:

Cátia Martins Leite Padilha

Instituto Nacional de Câncer, Rio de Janeiro, Brasil
838, cep.: 22710-560

E-mail: catiapadilha@terra.com.br

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