This volume was strikingly inferior to the one observed in those cases with residual lesion.

Only in one patient, a microscopic parametrial infiltration and lymph node involvement was verified after neoadjuvant chemotherapy. They were associated with a big tumor (121 cm^3) and a stable response to the cytotoxic treatment.

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COMPLICATIONS AFTER RADIOTHERAPY IN GYNECOLOGIC ONCOLOGY

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Complications of radiotherapy in the treatment of cancer of the cervix are the most important in the gynecological area because of the frequency of this tumor and the wide employment of radiation therapy in this treatment.

The complications usually, involve the organ adjacent to the cervix because this receive a high dose of radiotherapy. The rate of severe complications with an accurate therapy should be in the range of 3 to 5% overall.

These involve primarily the rectum with rectosigmoiditis, proctitis or rectovaginal fistula and secondarily the urinary tract with cystitis or vescicovaginal fistula.

Rarely the small bowel is involved, when only the pelvic fields are used.

In these organs the irradiation injury depends on the dose delivered, the fractionation and the volume treated. Further, it results difficult to add the biological effects of radiation when it is delivered with brachytherapy or external irradiations or both.

Fro many years, in an effort to reduce the incidence of complications, the doses to the bladder and the rectum have been determined.

Initially the radiation doses were directly measured with dosimeters placed in these organs.

Fletcher discontinued this technique because these measurements did not correlated well with the rate of complications. Cunnigham, using thermoluminescent dosimeters (TLD) inserted in the rectum points out that this technique is limited by many practical difficulties. Furthermore differences of about 15% were found between the rectal direct dosimetry and the calculated doses.

Hamberger and Unal analyzing respectively 325 and 254 patients with carcinoma of the cervix treated with either intracavitary or external irradiation, reported significant increase in complications. They observed, increasing doses of radiation a variable incidence from 8.1 to 15% of severe complications.

Since the introduction of radical hysterectomy and megavoltage irradiation cancer of the cervix in the early stage has been treated with either radical surgery or radiation therapy alone.

Bulky lesions, however, are frequently treated with radiation followed by surgery. In some Centers radical hysterectomy is followed by postoperative radiotherapy if nodal or parenchymal involvements is noted in the surgical specimens.

Most Centers used intracavitary radiation preoperatively, and only in selected patients postoperative radiation therapy.

The incidence of complications reported after combined treatment is extremely variable. This is due to the considerable variation in radiation technique and the different doses delivered to specific landmarks from series to series.

However, some conclusions can be drawn regarding the relationship between combined treatment and complications.

First, it's difficult to deliver a higher dose than 20 Gy by external radiation without an elevated rate of severe complications.

Second, increasing the radicality of the surgery, there will be an increase of frequency of the complications. On the contrary, Nelson and De Graaff demonstrated a lower incidence of severe complications with less invasive surgery.

Third, many patients have a higher probability of developing conmplications after radiotherapy, such as elderly or underweight patients and those with previous pelvic inflammatory disease or pelvic surgery.

Our data, regarding combined treatment demonstrate an incidence of severe complications of 5% overall and of 9% for patients affected by carcinoma of the cervix.

No severe complications were noted in these patients treated by preoperative radiation therapy.

In order to minimize these complications many modes can be applied.

Now, the computerized tomography applied to radiotherapy treatment planning can permit a better understunding of the doses delivered to specific volumes. In the future a tridimensional dose computation will be possible regularly.

Some gynecologic applicators which, by particular shield, reduce the dose in the region of the bladder trigone and the anterior rectal wall can be used when an integrating radiation therapy is performed.

Regarding the small intestine injury, although predisposing factors have been studied, only a few reports evaluate some preventive measures, such as a reduction of doses by shrinking fields technique, or displacement of the small bowel by distension of the bladder, on patients positionning.

In conclusion it's important to determine the morbidity of treatment but also to obtain the tumor control, because recurrences after therapy of cancer of the cervix are pratically fatal. Therefore in order to provide the maximum tumor control we can bear an acceptable number of complications. Patients developing major complications have fewer pelvic recurrences and exhibit higher survival than patients without complications (Perez).

Following certain dosimetric guidelines, radiation therapy and surgery can be integrated to clearly demonstrate the advantages of combined therapy, also in relation to the complications.

URODYNAMIC PARAMETERS IN RELATION TO DIFFERENT THERAPEUTICAL PROGRAMS IN CERVICAL CANCER

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Bladder dysfunctions, retention or incontinence or other urinary symptoms, can be present in gynecological oncology, before and after surgery, especially in patients affected by cervical neoplasms. It has logn been recognized that radical hysterectomy may be followed by bladder dysfunction characterized clinically by urinary retention or incontinence. The mechanisms accounting for this bladder dysfunction have not been defined has the apparent transitory nature of the clinical problem as seen in some patients understood. Neuromuscolar vesico-urethral dysfunction following radical hyste-