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Conservative treatment of anal canal cancer: Retrospective study

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Between January 1981 and May 1996, thirty patients with anal canal carcinoma were treated with a protocol of radiation therapy alone or in combination with chemotherapy. The patients were divided into 4 stages by International Union against Cancer (UICC) 1987: I stage 8 patients, II stage 16 patients, III stage 5 patients, nobody in stage IV and 1 patient in recurrence. Sixteen patients were treated with external radiation therapy alone, 8 with interstitial 192Ir implant alone, and 6 with the combination of both (dose range 30-70 Gy). Nine patients received concomitant cytotoxic chemotherapy. Toxicities were mild to moderate. Twenty-eight patients were eligible and 2 were lost to follow-up. A complete response (CR) was observed in 19 patients (68%); nobody of these patients had local recurrence and anorectal function was retained. We may conclude that radiotherapy with or without chemotherapy can provide a good local control and preserve anal function with acceptable morbidity.

Key words: rectal neoplasms-radiotherapy-drug therapy; treatment outcome

Introduction

Anal canal carcinomas are rare diseases and account for 1% to 4% of all large bowel cancers. Cancer of anal region occurs more frequently in females than in males with sex ratio of 2:1 and in people over the age of 60.[1]

In the past, the most frequently performed therapy was radical and demolitive surgery; nowadays, since anal canal cancer has good prognosis and a long survival, conservative management is preferred.

The most recent studies have shown that radiation therapy is an appropriate treatment, especially if it is associated with chemotherapy.[2,3,4] Multimodality therapy increases survival and warrants sphincter-sparing, so this combined treatment approach is now regarded as a model for successful therapy of anal canal carcinoma.[5,6,7]

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Materials and methods

From January 1981 to May 1996, thirty patients with primary anal carcinomas were treated with conservative therapy at our department; 21 were female and 9 male. The patients' age ranged between 44 and 88 years, with a median age of 71. Twenty-three patients (76.5%) had an invasive carcinoma of the squamous type, 5 of basaloid type (16.5%) and 2 of the cloacogenic type (7%).

The initial tumor stage according to the TNM-classification (UICC 1987) was for 8 patients stage I, for 16 stage II, for 5 stage III. One patient came to our observation with a local-regional recurrence; previously, this patient received external radiotherapy (a total dose of 55 Gy) in another center.

All patients in our study were eligible for a conservative therapy and nobody had abdomino-perineal resection (APR) as primary surgery treatment; complete local excision or biopsy were carried out in all cases.

All our patients were given radiotherapy treatment: 16 of them with exclusive external radiation, 8 with brachitherapy and 6 with external radiation and brachitherapy like boost.

The primary tumor region including pelvic and inguinal lymph nodes were irradiated by an anterior and posterior opposed (AP/PA) pair of fields or by a 4-field-box technique. The upper limit of the target volume was L5-S1 and lower limit included the perineum. External radiation was delivered with 10 MeV photons and a single daily fraction between 1.8 and 2 Gy in an uninterrupted course up to a medium dose of 52 Gy. Total doses varied between 30 and 65 Gy. The dose was specified at midline (AP/PA fields) or at 90% isodose (4-field-box).

In 14 cases, brachitherapy was performed; for 8 patients this was an exclusive treatment, while for 6, it was the boost of external beam radiation.

We used the template technique with iridium-192 needles and wires in all patients (low dose rate).The implant volume covered about one-third to one-half of the anal circumference; single-plane as well as double-plane implants were used. Total doses varied between 20 and 70 Gy, with a dose rate on the reference isodose according to Paris system.

Nine patients were given a concomitant chemotherapy; 3 of them with Mitomycin C (MTC)- 5 Fluorouracil (5FU) scheme and 6 with CDDP-Folinic acid-5FU scheme.

The patient who was treated for recurrence received brachitherapy treatment in two different time periods (total dose 67.4Gy) with concomitant chemotherapy.

Results

The follow-up of our series ranges between 7 to 180 months. Twenty-eight are eligible; two patients were lost from the follow-up 7 and 12 months respectively; they were without evidence of disease. Six patients died of cancer progression after a median interval of 7 months from diagnosis and three of unrelated disease. Nineteen patients (68%) are alive without evidence of disease. Out of 28 selected patients, 19 achieved a complete response (CR) in T and in N. One patient had CR in T, while no relevant modifications were seen in the metastatic nodes; he was submitted to lymphadenectomy. Eight patients showed stable disease when they underwent restaging: two of them were submitted to abdominal-perineal resection and are now alive without evidence of disease, the others six died for progression of cancer. One patient developed lymph nodes metastases 6 months after the completed treatment; he was given external radiation and he had a CR, he died for broncho-pneumonia after 46 months. The median survival of our patients is 50 months.

All patients were evaluated for toxicity, which was graded according to the WHO criteria. Nobody died from toxicity. Some patients experienced diarrhea, proctitis and perineal dermatitis; these symptoms were low grade in most of them and easily controlled with symptomatic treatments. The patient who received radiotherapy for the second time for recurrence, developed chronic proctitis. One patient has rectal angiodysplasia and she needs blood trasfusions at intervals. Anorectal sphincter function was preserved in all patients with CR. One showed stool incontinence during the year after the treatment, now normal function is recovered.

Discussion and conclusions

Our study, according to references, confirms that anal canal cancer is rare carcinoma and it occurs more frequently in females.

Anal carcinoma is a radiosensitive tumor; radiotherapy carries out good results with acceptable toxicity and gives patients the opportunity to have a surgery repair in case of stable disease or recurrence.[8,9] Our therapeutic protocol has allowed us to obtain a large number of CR (68%) with low toxicity. The analysis of failures proves that they have occurred in patients at advanced stage and with metastatic nodes.

We have come the conclusion that radiotherapy is the primary treatment and that a multimodality therapy is absolutely necessary in advanced stages.[10,11] Future objectives must include the improvement of local control rates; this could be achieved through adjustments in radiation and chemotherapy schedules.

References

1. De Vita VT Jr, Hellman S, Rosenberg SA, eds. *Cancer: principles and practice of oncology*. 3rd ed. Philadelphia: Lippincott, 1989.

2. Cummings BJ. Concomitant radiotherapy and chemotherapy for anal cancer. *Semin Oncol* 1992; **19: 4 suppl 11:** 102-8.

3. Doci R et al. Combined chemoradiation therapy for anal cancer: a report of 56 cases. *Ann Surg* 1992; **215:** 150-6.

4. Gerard JP et al. Cancer du canal anal: role de l'association 5FU-cisplatinum. *Lyon Chir* 1991; **87:** 74-6.

5. Allal A et al. Chemoradiotherapy versus radiotherapy alone for anal cancer: a retrospective comparison. *Int J Radiat Oncology Biol Phys* 1993; **27:** 59-66.

6. Brunet R et al. Cisplatine (P) et fluorouracile (FU) en chemiotherapie neoadjuvante des carcinomes epidermoides du canal anal. *Lyon Chir* 1991: **87:** 77-8.

7. Roelofsen F et al. Concomitant radiation and chemotherapy superior to radiotherapy alone in the treatment of locally advanced anal cancer: results of phase III randomized trial of the EORTC raditherapy and Gastrointestinal Cooperative Group. Proc ASCO 1995; 14.

8. Hughes LL et al. Radiotherapy for anal cancer: experience from 1978-1987. *Int J Radiat Oncol Biol Phys* 1989; **17:** 1153-60.

9. Wagner JP et al. Radiation therapy in the conservative treatment of carcinoma of the anal canal. *Int J Radiat Oncol Biol Phys* 1994; **29:** 17-23.

10. Grabenbauer GG et al. Epidermoid carcinoma of the anal canal: treatment by combined radiation and chemotherapy. *Radiother Oncol* 1993; **27:** 59-62.

11. Rich TA et al. Chemoradiation therapy for anal cancer: radiation plus continuous infusion of 5FU with or without cisplatin. *Radiation Oncol* 1993, **27:** 209-15.