

MULTIMODALITY TREATMENT OF ANAL CANCER. EXPERIENCES IN 142 PATIENTS

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Introduction: Since the early 80th therapy of anal cancer changed considerably with the introduction of multimodality treatment by Nigro. Until then monotherapy, mainly by surgery, was predominant, leading to anorectal excision in the anal canal cancer, in restricted cases of the anal margin to local excision. Although anal cancer should be early diagnosed, the majority presents in an advanced stage, at least one third with a loco-regional or distant metastasis. Accounting this and in order to preserve continence these superficially lying tumors with moderate susceptibility to irradiation underwent radiotherapy too. However, the results of both, reaching about 50% 5 years survival, were equal, but not satisfying at all. The combination of both may improve to about 70 %, but regularly resulted in loss of continence.

THE MULTIMODALITY TREATMENT.

The Nigro-procedure.

The concept of Nigro was to increase the effect of radiotherapy by additional chemotherapy (5-FU + mitomycin - C), so that even lowering the dosage of radiotherapy to 30 Gy was possible, and to apply radical surgery 6 to 8 weeks later. By this cure rates could be improved to more than 80 %, a lot of surgical specimens showing no residual tumor. These observations made it possible to restrict indication for anorectal excision to cases of persisting tumors and larger ulcerations, especially if they presented with sphincter defects, meaning round about 20 - 30 % of all cases, thus preserving continence function in the others by local excision of the prior bed of the tumor. Fascinating in this concept has been the very moderate irradiation dose of 30 Gy, because the former dosage of 60 Gy may lead to considerable deterioration of sphincter function especially in elder patients.

Own results in the first period.

In 1981 I adapted this concept for potentially curable tumors (<T_x N₁ M₀). Regarding the former experiences the results were amazingly good. In merely 80 % there were no macroscopical signs of residual tumor after the initial treatment. In each 10 % as well patients presented with persisting gross tumors or ulcers, impossible to decide, whether they had remaining cancer. Only these underwent radical ano-rectal-excision, whereas the others were revided locally. Histologically 2/3 of the ulcers showed no residual tumor; in case of local excision 15 % had microscopical tumors, but these cells presented with marked irradiation damage. Consequently only three of these patients developed local recurrence. In summary on a histological basis the initial therapy failed in 20 of 78 patients, however one may discuss, whether those tumors, which had been macroscopically cleared, have been failures at all from a biological point of view because only 3 of 9 developed recurrence after local excision. Cancer related mortality rate was 6 patients of 66, surviving 5 years, the survival rate therefore 90 %.

Further developments since 1990

Seeing an initial rate of failure of about 30 % it seemed possible to reduce this quote by increasing radiotherapy to a dosis of 50 to 60 Gy. This we did in 1990. Since then 64 patients underwent this modification. Regarding the foregoing experiences the surgical procedure was altered too. Local excision was even done in primary advanced tumors (T₃ and T₄), now including residual ulcers too, if they did not exceed 2 cm. If the tumor has been large in diameter, but was cleared by chemo-radiotherapy, local revision took place by multiple biopsies. If there has been residual gross tumor at the anal margin, it was managed by local excision too. Thus the indication to anorectal excision could drastically be reduced to totally 4 cases, 2 primary and 2 on account of local recurrence. The initial rate of failures dropped to 11 % (9 of 64), that enabled to preserve continence in 94 % of the patients. This, however, is the most remarkable result, because the late results - very good already - could not be improved furthermore (5 local recurrences, 5 cancer-related deaths).

On the other hand the higher radiation dose led to an increase of therapeutical side-effects. Whereas in the former series merely none had local effects of radiotherapy, I now observed 28 cases with persisting moderate or even severe (6) dermatitis and/or proctitis, furthermore 9 patients with deterioration of continence, 6 degree I, 3 II. However none of these would accept a stoma on account of the incontinence.

Some last remarks to therapeutical outcome: We had totally 3 deaths according to treatment, 2 by chemotherapy (cardiac failures), 1 by anorectal excision.

Overall failure of total primary therapy was 12 of 142 (8,4 %).

Conclusions

Multimodality treatment is very effective in locally restricted anal cancer with a survival rate of about 90 %. In increasing the irradiation dose to 50 - 60 Gy local tumor control will be gained in 90 %, enabling preservation of continence in 94 %, because surgery can be restricted to local excision or revision in the vast majority of the cases.

On the other hand there remain at least three questions open for discussion:

1. What would be the most convenient dosage of radiotherapy, because the actual dose is rich in side-effects, and
2. may there be other regimens for chemotherapy, because mitomycin is problematic?
3. Does chemotherapy only work as a radiosensitizer or is there still an additional local and systemic effect, because the number of distant metastases is considerably low. But if so, would be worthwhile to continue chemotherapy in cases, which had residual tumor in the surgical specimen?