Comparison of gross tumor volume (GTV) determined by $^{18}$F-FDG PET/CT and MRI in radiotherapy planning in rectal cancer

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Objective. To evaluate if radiotherapy planning with $^{18}$F-FDG PET/CT in rectal cancer (RC) can modify the gross tumor volume (GTV) to be irradiated compared to pelvic MRI. In addition, if PET/CT provides additional information on initial staging of RC.

Materials and methods. We retrospectively analysed 39 patients (23 male, mean age 68 years) with RC, who had a PET/CT scan performed for radiotherapy planning and an MRI with an interval of time not exceeding 30 days. GTV in both studies (PET/CT and MRI) included: (a) primary rectal tumor and (b) pelvic lymph nodes or perirectal soft tissue injuries increased in size, usually larger than 1 cm. The GTV determined by PET/CT measure also included subcentimetric lymph nodes with pathological $^{18}$F-FDG uptake (SUVmax >2.5).

Results. In 23/29 (59%) patients PET/CT did not induce changes in the GTV. In 7/39 (18%) PET/CT underestimated the GTV (MRI showed millimetric lymphadenopaties in mesorectum suggestive of malignancy, while PET/CT did not reveal pathological uptake of $^{18}$F-FDG in this location, probably due to the small size of these lymph nodes. In 7/39 (18%) PET/CT modified the GTV (GTV increased in 6 patients and decreased only in one). In the two remaining patients (5%) GTV was not defined as PET/CT detected liver metastases and neoadjuvant chemotherapy was initiated because the patients were asymptomatic locally. PET/CT also identified distant metastases in 14 patients, unknown in 8 of them (21%), inducing a different therapeutic management (in 4 patients surgical liver metastases resection was performed, in one patient the lung disease was totally resected and in three patients the chemoradiotherapeutic treatment was modified.

Conclusion. The combination of the information supplied by PET/TC and MRI is useful in the precise definition of GTV in rectal cancer, minimizing normal tissues radiation. Unknown metastases detected in PET/TC can modify patient management in these cases.

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Conservative treatment of anal canal cancer

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Objectives. The aim of this retrospective analysis was to determine efficacy, safety and feasibility of conservative treatment with radiochemotherapy (CRCT) of patients with anal canal cancer referred to our service.

Patients and methods. Between February 2002 and April 2012, 19 patients with anal canal cancer were treated with radical CRCT. The treatment schedule consisted of 3D conformal external radiotherapy or IMRT (prophylactic pelvic nodal: 45 Gy and gross disease: 60.4 Gy) with concurrent chemotherapy (Mitomycin C and 5-FU or CDDP and 5-FU).

Results. Median age was 65 years (35–83). Gender: male 57.9%, female 42.1%. 36.8% were HIV positive. Staging of the cancer was as follows: T2-T3N0 47.4% and N2–N3 52.6%. The RT treatment was completed by 84.2% patients and 15.8% was suspended for digestive and cutaneous toxicity; 78.9% patients received QT (9 scheme with 5-FU and mitomycin and 6 with cisplatin and 5-FU). With a median of follow-up of 21 months (range 3–87 months), OS at 2 and 5 years was of 67% and 34% respectively. The DFS at 2 and 5 years was 67% and 30% respectively. Cause-specific survival was at 2 and 5 years 74% and 51% respectively. Colostomy free survival at 2 and 5 years was 77%. CRCT resulted in grade 3 mucocutaneous toxicity in 42% of patients. No cases of grade 4 toxicity were observed. There was no difference in the analysis based on age, sex, HIV status or QT scheme used.

Conclusion. Conservative treatment with radiochemotherapy offers high rates of colostomy free interval. The toxicity of the treatment is high but admissible. Data on OS and DFS are similar to those published in the literature.

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Cord compression by metachronous bone metastases of gastric cancer treated 4 and 20 years before. Report of two cases


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Introduction. Gastric cancer usually recurs in the first 5 years after initial treatment, affecting peritoneum, local lymph nodes or liver. Bone metastasis are very rare (0.99–2.1%), but are described cases of first symptom onset of spread, many years after surgery.