413 POSTER

POSITRON EMISSION TOMOGRAPHY AND CARBON-11-METHIONINE FOR ASSESSING RESPONSE TO RADIOTHERAPY IN CANCER OF THE ORAL CAVITY AND LARYNX: PRELIMINARY RESULTS

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Positron emission tomography (PET) and 11C-methionine (MET) are used for imaging amino acid metabolism in cancer. The aim was to study the potential of MET PET in assessing response to radiotherapy (RT) in primary squamous cell cancer (SCC) of the head and neck cancer. Seven patients had altogether 13 evaluable tumor sites. Six patients with SCC in the oral cavity and one with laryngeal SCC entered a MET PET study before and after preoperative RT (total tumor dose 62–73 Gy). All except one were operated, and the standardized uptake values (SUVs) of the tumor sites were compared with histology. The median SUV was significantly smaller (2.3; range 1.6–3.1; N = 4) in cases with complete response to RT than in those with persistent cancer (median 4.5; range 3.1–7.0, N = 7, $P = 0.01$). MET PET may distinguish persistent cancer from benign therapy-induced changes. High MET uptake in the tumor site after RT suggests the presence of persistent cancer.

414 POSTER

EFFECT OF ADJUVANT CHEMOTHERAPY (CT) IN UNDIFFFERENTIATED CARCINOMA OF NASOPHARYNGEAL TYPE (UCNT)

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CT is the mainstay of treatment in UCNT but the chronologic order of administration should be discussed (adjuvant or neoadjuvant). In this study, we report 61 cases of non-metastatic UCNT registered in ISA from 1981 to 1987. All patients (pts) had a locoregional radiotherapy followed by a CT with different combined regimen: Adriamycin + Bleomycin + Cisplatin = 19% of pts, Vincristin + Bleomycin + Cisplatin = 32%, Vincristin + Cyclophosphamide + Bleomycin = 19% and 30% had regimen containing nitrosourea. Pts characteristics: median age = 18.8 years (range 9–41); 36 males and 25 females; staging: T1T2 = 19 pts, T3 = 4, T4 = 38, N0 = 4, N1 = 6, N2 = 36, N3 = 13, Nx = 2. Survival: 5-years overall survival = 85.3% and disease free survival = 71.7%.

An univariate analysis of prognostic factors has been made (age, sex, T, N, CT with or without Cisplatin and duration of CT more or less 6 months). Only one variable has found to be nearly statistically significant ($P = 0.07$), it is the duration of CT.

415 POSTER

AMIFOSTINE PRESERVES THE SALIVARY GLAND FUNCTION DURING IRRADIATION OF THE HEAD AND NECK

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To evaluate the radioprotector Amifostine (Ami) when given during a course of head and neck (H&N) irradiation (RT), eligible pts underwent RT for H&N cancer where the major salivary glands received more than 45 Gy. Ami was administered prior to each dose of radiation. Saliva was collected and measured prior to, during and at regular intervals post RT. ^{99m}Tc salivary scintiscans were performed prior to and post RT. Ten patients were treated on the first dose level (Ami 100 mg/m^2) and 2 on the second dose level (200 mg/m^2). Flow rates of unstimulated whole saliva decreased significantly during RT, recovering after 6 months. Stimulated whole salivary flow rate similarly decreased during RT and improved after 3 months post RT. The stimulated parotid flow rate decreased during RT to <1% of pretreatment levels. Significant recovery took place 6 months post RT and by 15–18 months values had recovered to 45% of baseline, an effect superior to historical controls. ^{99m}Tc salivary scintiscans confirmed this rebound of parotid function. Ami prior to each dose of radiation was feasible and without significant toxicity. Salivary gland function improved over time after completion of radiation, particularly the parotid. Future directions include escalation to 300 mg/m^2 and a Phase III randomized trial will be undertaken once the optimal dose is established.

416 POSTER

INTENSIVE CONCURRENT CHEMORADIATION IN ADVANCED ESOPHAGEAL CARCINOMA

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Purpose: To evaluate the efficacy and acute toxicity of an intensive chemoradiation regimen in patients (pts) presenting with advanced esophageal carcinoma, as a conservative or neo-adjuvant procedure.

Methods: Ten male pts (mean age 62 years), presenting with an advanced esophageal carcinoma (9 squamous cell, US staging: 1 T3N0, 6T3N+, 2 T3N+M+, 1T4N+), were treated by a combination of one initial chemotherapy course (5 FU-CDDP), followed by concurrent chemo-radiation: continuous accelerated hyperfractionated radiation delivering 45 Gy within 3 weeks and chemotherapy (5 FU-CDDP), followed by surgery in 2 patients or by 1 to 4 chemotherapy courses in 8 patients. Acute toxicity, endoscopic and histological response were evaluated after radiation and 5 months later.

Results: Grade 3 dysphagia (Atkinson scale) was observed in 2 pts, for 9 days, weight loss 6 kg, grade 4 in 1 pt, 14 days, weight loss 5 kg. A complete response was obtained in 6 pts (60%), partial response in 4. We observed 1 post-operative death, 6 pts finally recurred locally.

Conclusions: This chemoradiation regimen resulted in high response rate, with an acceptable toxicity, encouraging further investigations.

417 POSTER

14 OR 21 CONSECUTIVE DAYS INFUSION OF CARBOPLATIN (CBDCA) AND CONCOMITANT RADIOTHERAPHY (RT) IN ADVANCED HEAD AND NECK CANCER (HNC): FINAL REPORT OF A FEASIBILITY STUDY

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As a rule, CBDCA in concomitant settings with RT has been administered as bolus injection once a week or every 3–4 weeks during radiotherapy. A phase I study on conventional RT and concomitant infusional CBDCA was conducted to evaluate the toxicity and efficacy. 40 pts with advanced HNC underwent infusion of a low daily dose of CBDCA (30 mg/m^2) for 21 days in 12 pts and for 14 consecutive days in 28 pts and concomitant RT delivered on T and N up to a mean dose of 65–70 Gy, 180 cGy/5d/w. Average age was 62.5 years (range 29–85); M:F 31:9. Anatomic site: oropharynx 10 pts; oral cavity 10, larynx 7; hypopharynx 4; salivary gland 2; other sites: 7. Stage I 1 pt; II 2 pts; III 6 pts; IV 31 pts (77.5%); N3 15%; T4 50%. All pts were evaluable for acute toxicity; major side effects were hematological and mucosal. In the 21-day infusion group 4/12 pts (33%) experienced a WHO grade III leukopenia (L)/neutropenia (N) and 3 pts (25%) a grade IV; grade III and IV thrombocytopenia (T) occurred in 3 and 2 pts respectively. In the 14-day infusion group WHO grade III and IV L was observed in 9/28 (32%) and 3 pts (10%) respectively; grade III and IV N in 10 (38%) and 3 pts; grade III and IV T in 3 and 2 pts. Mean time to nadir for WBC and platelets occurred at 40th and 32nd day respectively after beginning of the 14-day infusion and at 44th and 36th after the 21-day infusion. Hematological recovery required 4 to 12 days after grade III or IV toxicity. Stomatitis did not exceed grade III (9 pts; 22.5%). There was a treatment-related death for septicemia. After a follow-up of at least 4 months 37 pts are evaluable for tumour response; 22/37 pts (60%) achieved a CR and 16 of them a mean follow-up of 24 months remain free of disease. 12 pts achieved a PR and 2 of them were free of disease after salvage surgery. Mean survival was 15 months; overall and disease free survival at 1 year was 70% and 52% respectively. According to our experience, continuous infusion with CDBCA 30 mg/m^2 during the first 2–3 weeks of conventional radiotherapy is a feasible schedule even though there is still a certain level of hematological toxicity. The percentage of objective responses is good as compared with other multimodality approaches in HNC and is suitable for further investigations.