assess whether surgical intent (curative or cytoreductive) has an impact on long-term outcome, and assess cost-effectiveness of surgery for the symptomatic management of hepatic neuroendocrine metastases.
Methods: A retrospective review of a prospectively maintained database of all patients referred to a neuroendocrine multidisciplinary team meeting between January 1996 and December 2008.
Result: 340 patients were referred during the study period, of whom 190 (55.8%) had disease stage 1−3. Of the remaining 150 patients with stage 4 disease, 117 (78%) were treated non-surgically (6 RFA, 15 MIBG, 51 octreotide, 23 lantreotide, 2 dotate, 2 chemoembolisation) whilst 33 patients (22%) were treated by surgical resection. Thirteen underwent surgery with curative intent, whilst 19 underwent cytoreductive resection. At median follow-up of 66 months, 8 of the 13 patients (62%) who underwent curative resection had hepatic recurrence. Overall 1, 3, and 5-year survival rates were 94%, 64% and 46% for stage 4 medically medically managed patients, 100%, 100% and 82% for patients undergoing cytoreductive surgery and 100%, 100%, 100% for patients undergoing curative resection. (p = 0.049). Curative resection gave a median duration of symptom control of 67.5 months (IQR 36.5−81) compared to 24 months (IQR 19–45.5) for cytoreductive surgery. Cost per QALY for the treatment of hepatic neuroendocrine metastases was €1,438 for curative surgery and €3,121 for cytoreductive surgery, compared to €14,450 for non-surgical management.
Conclusions: Hepatic resection improves survival in patients with neuroendocrine metastases. Although recurrence rates are high, curative surgery is associated with more durable symptom control than cytoreduction. Resection for symptom control is considerably more cost-effective than medical management.

6517 POSTER

Sunitinib and Transarterial Chemoembolization (TACE) for Advanced Hepatocellular Carcinoma (HCC)- Final Results of a Phase 2 Trial

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Background: TACE and oral anti-angiogenic agents have individually been effective for treating inoperable HCC. We evaluated the effects of a combination of sunitinib and TACE on PFS in this prospective phase 2 study.
Methods: Eligibility: PS 0, 1, inoperable HCC, Child Pugh A or B, platelets >100K, bilirubin 2 or less and no contraindication to TACE. Treatment: Cycle (C)1-Sunitinib 37.5 mg po day (d)1−7 followed by TACE with doxorubicin in lipodiol on d8, continued sunitinib 37.5 mg po qd d15−36 followed by 2 weeks off. C2 onwards- sunitinib 4 weeks on and 2 weeks off, with dose escalation to 50 mg in patients (pts) without any grade 3 toxicities in C1. DCE MRI, sVEGFr, monocytes, and sunitinib PK were assessed at baseline, d 8, 10 and 36.
Results: Baseline characteristics of 16 pts were following: median age 74 years (range 40−86), 12 males and 4 females, all with Child Pugh Class A cirrhosis (etiology: hepB: 2, hepC: 6, alcoholic: 1, unknown: 7), and ECOG PS 0: 12 and PS 1: 4. There were 10 liver only and 6 extrahepatic disease sites. Median PFS was 8 mo (95% CI 4.3−9.3) and OS was 14.9 mo (95% CI 6.3–27.1) with a median follow up of 12.8 months, and 5 patients still alive. Responses by RECIST criteria were 2 PR,11 SD, and 3 clinical deteriorations; clinical benefit rate was 81%. Median number of cycles on study was 3 (range 1−7). For 8 pts with DCE- MRIs, median Ktrans change was −20% after 7 days of sunitinib and a 7% further decrease was seen after TACE and sunitinib; decrease in viable tumour at same timepoints was 3% (d8) and 15% (d36) respectively. Steady-state sunitinib concentrations ranged from 20–150 ng/mL, which were above the IC_{50} values of 4−30 ng/mL for VEGF inhibition. PK/PD modeling estimated sunitinib IC_{50} values of 15 and 10 ng/mL for modulation of Ktrans and AUC_{90}. sVEGFR2 levels increased with Ktrans and AUC_{90}. Median monocyte counts were 0.4 x 10 x9/L before and decreased by 50% on d36 after TACE. Eleven pts (69%) had grade 3/4 toxicities attributable to sunitinib. Of the 57 total events, the most frequent (n = 5 or more) were thrombocytopenia (10), amylase/lipase increase (9), lymphopenia (7) and fatigue (6). Dose delays and dose reductions occurred in 13 and 3 patients respectively. Reasons for discontinuing therapy were toxicity (7), progression of disease (7) and withdrawal of consent (2).
Conclusions: This is the first study of sunitinib and TACE in HCC. Improvement in PFS and OS was seen with acceptable toxicity. Our studies show a relationship between sunitinib concentration and following markers: Ktrans, AUC_{90}, $sVEGFR_2$ and monocytes, with additional decrease seen after TACE.

6518 POSTER

Neoadjuvant Chemoradiotherapy for Locally Advanced Esophageal Cancer − Analysis of Pattern of Recurrence and Prognostic Factors for Survival

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Background: Concurrent chemoradiotherapy (CRT) followed by esophagectomy has become a standard treatment option in patients with resectable esophageal cancer. We analyzed pattern of recurrence and factors predictive for survival to find additional strategies to improve outcome.
Material and Methods: Between 2003 and 2009, 64 patients were treated with neoadjuvant chemoradiation followed by surgery as a planned approach for locally advanced esophageal cancer in our institute. All demonstrated a clinical T-stage of 2 or higher and histology was squamous cell carcinoma in all patients. The average age was 62.1 years, and most patients were male (89%). 14 patients (22%) had cStage II, 41 (64%) had cStage III and 9 (14%) had cStage IVa carcinomas (UICC-TNM 6th). A total of 36 patients received a combination of docetaxel and 5-Fluorouracil (5-FU) while 27 patients received a combination of cisplatin and 5-FU, and one received a combination of nedaplatin and 5-FU. The radiation was administered concomitantly and total dose was 40 Gy. Surgical resection was performed 4−6 weeks after the completion of chemoradiotherapy, using a right transthoracic approach with two- or three-field lymph node dissections.
Results: The overall clinical response rate to neoadjuvant CRT was 93.8%; 9 showed complete response (CR), 51 showed partial response (PR). On examination of the resected specimens, pathological CR was achieved in 16 patients (25%). Another 22 patients (34%) had a significant tumour response with only minimal tumour remaining. According to the clinical stage before CRT, 5-year survival was 75% in cStage II, 45% in cStage III and 27% in cStage IVa. Among 44 patients who were followed-up beyond 2 years, 22 patients experienced disease progression. Of the treatment failures, 8 (18% of 44 patients) were distant, 8 (18%) were locoregional, and 6 (14%) were both locoregional and distant failure. In patients who achieved pathological response, 2 courses of additional chemotherapy after surgery prolonged survival compared to patients without postoperative chemotherapy (p < 0.001), while no difference was seen in patients who had no pathological response. By multivariate analysis clinical response to neoadjuvant CRT (HR 0.09; p = 0.0003) and pathologic response (HR 4.17; p = 0.001) were factors predictive of overall survival.
Conclusions: As compared with our previous data of treatment failures in patients who underwent surgery alone, locoregional recurrence rate decreased, while distant recurrence rate did not change. Control of distant recurrence is considered to be the most important problem. In multivariate analysis, clinical and pathological response to neoadjuvant CRT were significant predictor of survival. Therefore, new CRT protocol that affects both locally and systemically including multi-agent chemotherapy or molecular targeting drugs should be needed to improve survival.

6519 POSTER

Role of Surgical Resection in Complete Responders on FDG-PET After Chemoradiotherapy for the Locally Advanced Esophageal Cancer

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Background: Trimodality therapy has been a standard treatment for locally advanced esophageal cancer, and definitive chemoradiotherapy (CRT) is an alternative treatment for unresectable or medically inoperable cases. But in patients who have a good response to CRT, the role of surgical resection is not clearly verified. The purpose of this study is to determine the prognostic significance of metabolic response and what the role of surgery is in complete responders on [^{18}F]Fluorodeoxyglucose positron emission tomography (FDG-PET) after CRT for locally advanced esophageal cancer.
Material and Methods: We retrospectively reviewed 162 patients with locally advanced esophageal cancer with increased uptake on FDG-PET before chemoradiotherapy. Of these, 89 patients received definitive CRT and 73 patients received surgery after preoperative CRT. FDG-PET was repeated 1 month after CRT, and metabolic complete remission (PET-CR) was defined as standard uptake value (SUV) of 3 or less. Overall survival (OS), disease free survival (DFS) and local recurrence free survival (LRFS) rates were compared between the two groups.