Results: During the period 243 patients were treated with combined radiochemotherapy (228) or radiotherapy alone (15) for epidermoid anal cancer. Fifty (21%) patients had an incomplete response or experienced locoregional recurrence. Of these, 27 patients underwent APR with curative intent, 16 for residual and 11 for recurrent disease. There were 17 women and 10 men, median age 60 (39–85) years. Residual disease was more frequent among men than among women (9/10 vs. 7/17), $p = 0.018$. Primary reconstruction with a myocutaneous flap was performed in seven cases. R0 was achieved in 20 (74%) patients; R1 in the remaining 7 (26%). Major complications, including one postoperative death (4%), were recorded in 18 (67%) patients, protracted perineal healing being the most common (13 patients, 48%). Follow-up was median 33 (0–131) months. Estimated crude five-year survival postsalvage was 43%. There was no statistically significant difference in survival between patients with residual and recurrent disease, R0 and R1 resections, women and men, but patients aged <50 years fared better than those aged ⩾50, $p = 0.0017$. Delayed healing did not influence survival. Postsalvage locoregional recurrence was recorded in 9 (34%) cases, irrespective of primary tumour size, R-stage and residual or recurrent disease with a median delay of 10 (1–59) months. Estimated five-year disease-specific survival was 59%.
Conclusions: Salvage surgery for failure after oncologic therapy for epidermoid anal cancer offers a fair hope of long-time survival, but complications are considerable. In our study no single patient-, disease- or treatment-related factor was predictive of survival or locoregional recurrence except better survival among the youngest patients.

778 PUBLICATION

Incidence of gastrointestinal stromal tumor: a retrospective study based on immunohistochemistry and mutational analysis

C. Tzen[1], J. Wang[2], Y. Huang[3], P. Lin[4], M. Wang[2], G. Lai[4], C. Wu[4]. *[1]Mackay Memorial Hospital, Department of Pathology, Taipei, Taiwan; [2]Novartis (Singapore) Pte. Ltd., Asia Pacific, Head of Medical Affairs, Singapore, Singapore; [3]Novartis (Singapore) Pte. Ltd. Asia Pacific, Regional Medical Advisor, Singapore, Singapore; [4]Mackay Memorial Hospital, Department of Medical Research, Taipei, Taiwan*

Background: To determine the incidence of gastrointestinal stromal tumor (GIST) is important to health care providers regarding the availability of imatinib mesylate (Glivec, Novartis Pharma, Basel, Switzerland), a remarkably effective therapeutic agent for GISTs. In this study, we aimed to determine the incidence of GIST based on the recently refined diagnostic criteria, particularly the CD117 immunostaining and mutation analysis of *KIT* and *PDGFRA* genes.
Material and methods: After reviewing 17850 surgically excised GI lesions during 1998–2004, immunohistochemical analysis for CD117 expression was performed for all mesencheymal tumors. Among them, every CD117-negative mesenchymal tumor was further subjected to mutational analysis for *KIT* and *PDGFRA* exons. Diagnosis of GIST was based on morphologic context, CD117 expression and *KIT*/*PDGFRA* mutation. Based on the percentage of GI cancer patients in Taiwan who were diagnosed and treated in our hospital, we estimated the incidence of GIST in Taiwan from the annual incidents of GIST patients diagnosed and treated in our hospital.
Results: Approximately 4.72% of patients with malignancies of the GI tract in Taiwan were surgically treated in our hospital. The average of newly diagnosed and surgically treated GIST patients in our hospital was 14.33 cases per year. Excluding incidentally identified GISTs by autopsy or endoscopy, the estimated number of GIST patients in Taiwan is 303.60 annually.
Conclusions: GIST is a rare tumor with an annual incidence of at least 13.74 per million Taiwanese. Approximately a quarter of GISTs are not correctly diagnosed if immunohistochemistry and mutation analysis are not employed.
Keywords: Gastrointestinal stromal tumor (GIST), CD117-negative GIST, incidence

779 PUBLICATION

Phase I trial of capecitabine and gemcitabine with concurrent radical radiotherapy in locally advanced pancreatic cancer: interim results

T. Leong[1], M. Michael[2], V. Ganju[3], T. Price[4], A. Strickland[5], M. Jefford[2], S. Ngan[1], J. Zalcberg[2]. *[1]Peter MacCallum Cancer Centre, Radiation Oncology, Melbourne, Australia; [2]Peter MacCallum Cancer Centre, Medical Oncology, Melbourne, Australia; [3]Frankston Hospital, Oncology, Frankston, Australia; [4]Queen Elizabeth Hospital, Oncology, Adelaide, Australia; [5]Monash Medical Centre, Oncology, Melbourne, Australia*

Background: Primary chemoradiation is commonly used for the treatment of patients with locally advanced, unresectable pancreatic cancer. The current standard regimen combines 5-fluorouracil with radiotherapy (RT). However, given the disappointing results of recent randomised trials utilising this regimen in the adjuvant setting, there is a need to investigate newer systemic agents with RT. The combination of capecitabine (Cap) (Xeloda®) and gemcitabine (Gem) has demonstrated activity in advanced pancreatic cancer and both agents are potent radiosensitisers. The aim of this phase I trial was to determine the MTD of Cap combined with Gem plus concurrent RT.
Material and methods: Eligible patients (pts) had unresectable, locally advanced pancreatic cancer based on imaging or laparotomy findings, adenocarcinoma histology, adequate organ function and ECOG PS 0–1, no prior RT or chemotherapy. During RT, Gem was escalated from 20 to 50 mg/m^2/day IV (given days 1 and 4 of each week of RT), and Cap was escalated from 800 to 2000 mg/m^2/day (given daily in 2 divided doses, days 1–5 of each week of RT) in 7 dose levels. RT consisted of 50.4 Gy/28 fractions/5.5 weeks using conformal techniques. Three patients were entered to each dose level and if 1 of 3 patients had a dose limiting toxicity(s) (DLTs) the cohort was expanded to 6 patients. DLTs were based on treatment related toxicities and treatment interruptions.
Results:11 patients have been accrued to date: stage I (3 pts), stage II (5 pts), stage III (3 pts). Dose level 1: Cap/Gem; 800 mg/m^2/day / 20 mg/m^2/day (3 pts). Dose level 2: 1000 / 20 (3 pts). Dose level 3: 1300 / 30 (5 pts). Following chemoradiation, 3 patients (27%) had a partial response, and 6 patients (55%) had stable disease. No DLTs were observed on dose levels 1 and 2, while 2 DLTs were observed on dose level 3; grade 3 dehydration (1 pt) and grade 3 diarrhoea (1 pt). Dose level 2 was declared the recommended dose level and is being expanded to a total of 15 patients. No grade 3 or 4 haematological toxicities.
Conclusions: The addition of capecitabine and gemcitabine to radiotherapy was feasible and generally well tolerated. For future trials capecitabine 1000 mg/m^2/day and gemcitabine 20 mg/m^2/day is the recommended dose when combined with 50.4 Gy of radiotherapy. Accrual continues and further results will be updated.

780 PUBLICATION

High serum level of neuron specific enolase indicates the histological typing of pancreatic and hepatobiliary neuroendocrine tumors as poorly differentiated neuroendocrine carcinomas

C. Morizane[1], N. Hiraoka[2], Y. Takahashi[2], T. Okusaka[1], H. Ueno[1], M. Ikeda[1], M. Najima[1], T. Hirokawa[1], T. Ogura[1]. *[1]National Cancer Center Hospital, Hepatobiliary and Pancreatic Oncology Division, Tokyo, Japan; [2]National Cancer Center Research Institute, Pathology Division, Tokyo, Japan*

Object: This study investigated simple, useful, and surrogate markers for predicting the histological differentiation grades of pancreatic and hepatobiliary neuroendocrine carcinomas (NECs).
Patients and Methods: We retrospectively studied 40 patients with malignant pancreatic or hapatobiliary NECs who admitted to the Hepatobiliary and Pancreatic Oncology Division, National Cancer Center Hospital, Tokyo, Japan, between 1991 and 2005. Original sites of the tumors were as follows; pancreas (n = 27), liver (1), bile duct (1), gallbladder (6), ampulla of Vater (2), and duodenum (2). 38 patients had metastatic disease. Pathological specimens were obtained from 32 patients by aspiration biopsy and from 8 patients by surgical resection, all of which were pathologically diagnosed according to WHO classification for pancreatic endocrine tumor (WHO, 2000). We evaluated several clinical factors if they correlate with the histological differentiation grades of tumors. In addition, we analyzed the relationship of serum neuron specific enolase (s-NSE) and other clinical factors in 33 patients, who received systemic chemotherapy in the 40 patients.
Results: Histopathological diagnoses of the tumors were well-differentiated NECs in 17 tumors and poorly differentiated NECs in 23 tumors. Tumors from all of the 10 patients with high levels of s-NSE (⩾50 ng/ml) were classified as poorly differentiated NECs. S-NSE value (⩾50 ng/ml or not) was strongly and significantly correlated to histological differentiation grades of tumors ($p = 0.0006$). But performance status, primary tumor site, number of metastatic tumor site, and intensity of immunohistochemical expression of NSE, chromogranin A, synaptophysin and CD56 in tumor cells were not correlated to the differentiation grades of tumors. Patients with high levels of pre-treatment s-NSE responded more frequently against the chemotherapy (5 of 12, 42%) than patients with low levels (<50 ng/ml) of pre-treatment s-NSE (1 of 19, 5%; $p = 0.02$). Patients with high levels of s-NSE also showed significantly shorter survivals than patients with low levels of s-NSE on univariate analysis (median survival time; 5.2 versus 12.2 months, $p = 0.0019$).
Conclusion: High s-NSE level is a good indicator to specify the tumor as poorly differentiated NEC occurred in pancreas and hepatobilliary tract. It is also suggestive of the tumor being highly sensitive to chemotherapy but aggressive in clinical course.