Findings. The sensitivity of PET/CT in the identification of the site of the primary tumour was 92.85% and the specificity was 41.17%. Sensitivity was 0% and specificity was 68.62% for imaging, and 100% and 78.43%, respectively, for panendoscopy.

Interpretation. PET/CT is more sensitive for detection of the occult primary tumour. It has a low specificity rate and a high false-positivity rate. For this reason, several biopsies from suspected primary tumour sites should be taken rather than solely relying on PET/CT. The amount of uptake of contrast on PET/CT (intensely positive areas) correlates better with the positive results of panendoscopy and biopsy. PET/CT-guided fine needle aspiration cytology should be used more frequently.

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AOS22 EXPRESSION OF EXCISION REPAIR CROSS COMPLEMENTATION GROUP 1 (ERCC1) PROTEIN IN INDONESIAN PATIENTS WITH NASOPHARYNGEAL CARCINOMA RECEIVING CISPLATIN-BASED ADJUVANT CHEMOTHERAPY

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Background. Overexpression of excision repair cross complementation group 1 (ERCC1) has been reported to be associated with resistance to platinum-based chemotherapy in head and neck cancer. Since cisplatin-based adjuvant chemoradiotherapy is the standard treatment for nasopharyngeal cancer (NPC) in Indonesia, it is important to investigate the role of ERCC1 as a possible predictive marker of disease progression in our patients.

Methods. Consecutive samples obtained from our pathology archives of NPC from 31 patients who were receiving standard treatment with cisplatin-based chemoradiotherapy were examined for ERCC1 expression by use of immunohistochemistry. A retrospective cohort study was done and overall survival curves (OS) were plotted versus expression of ERCC1.

Findings. ERCC1 expression was high in 16 (51.6%) patients and low in 15 (48.4%). There were no differences in the baseline characteristics between the two groups (age, sex, and stage of the disease; $p > 0.05$). Median survival was 15.5 months. Analysis of OS showed a significant difference between the two groups ($p = 0.02$). A univariate analysis of the baseline characteristics and ERCC1 in relation to the 1 year OS showed that only ERCC1 was significant. 53.3% (95% confidence interval (CI) 40.4–66.2) of patients in the group with high ERCC1 expression had an OS of 1 year or more, whereas 80% (95% CI 69.7–90.3; $p = 0.02$) of the group with low ERCC1 expression had an OS of 1 year or more. The median 1 year OS in the high ERCC-1 group was 13.2 months (95% CI 0.0–27.2), whereas it was not achievable in the low ERCC-1 group. Hazard ratio for the group with high expression of ERCC1 was 3.304 (95% CI 1.12–9.71).

Interpretation. The low expression of ERCC1 might prolong the overall survival in Indonesian patients with NPC who are receiving standard cisplatin-based chemoradiotherapy.

The authors declared no conflicts of interest.

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AOS23 O6-METHYLGUANINE-DNA-METHYLTRANSFERASE EXPRESSION IN THAI PATIENTS WITH MALIGNANT GLIOMAS: OUTCOME AND RESPONSE TO TREATMENT IN RAMATHIBODI HOSPITAL

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Background. Malignant glioma is a rare but fatal tumour. High expression of O6-methylguanine-DNA-methyltransferase (MGMT) has been linked to poor outcome. We investigated the frequency of MGMT expression and its correlation with outcome and response to treatment in Thai patients.

Methods. In a retrospective cohort study of adult patients with histologically confirmed WHO grade III and IV malignant glioma diagnosed at Ramathibodi Hospital between January 1997 and December 2009, tumour tissue was assayed for MGMT immunohistochemistry status using MT 3.1 antibody with normal brain as the internal control. Data for clinical characteristics, treatment details, and outcome were collected. The main objective was the frequency of MGMT overexpression. Secondary outcomes were the correlation of MGMT expression with survival and treatment response.

Findings. One hundred thirty-five patients were eligible for analysis. The median age was 47 years. The most common histology was glioblastoma multiforme (WHO grade IV, 54.8%). Only 97 specimens were available for MGMT analysis and overexpression was detected in 31%. Median overall survival (OS) was 11.9 months and 1-year, 2-year, and 5-year OS was 50% (95% confidence interval (CI), 0.41–0.58), 34% (95% CI, 0.26–0.42), and 21% (95% CI, 0.14–0.29), respectively. Four significant adverse prognostic factors for survival that were identified in a multivariate analysis were diabetes mellitus, neurological deficit at diagnosis, histology of glioblastoma multiforme, and receipt of only single treatment modality. MGMT expression did not have prognostic value in the univariate and multivariate analyses. There was no difference in overall survival or response to treatment with temozolamide/BCNU in the subgroup with low MGMT compared with high MGMT.

Interpretation. The prevalence of MGMT expression in Thai patients with malignant glioma was not different from that reported elsewhere. MGMT expression did not affect outcome in this study cohort. Therefore, considering MGMT as a relevant factor in selection for treatment with temozolamide might be premature.

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AOS24 CANCER PHYSICIANS' ATTITUDES TOWARDS CANCER TREATMENT IN GERIATRIC PATIENTS IN SINGAPORE

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Background. Geriatric oncology services are not routinely available in Singapore and most cancer physicians have little access to it. The management of elderly patients with cancer is often suboptimal with no standardised methods for decision making.

Methods. We surveyed practising cancer physicians in Singapore about their attitudes towards the treatment decision-making process for geriatric patients with cancer and compared their pattern of disclosure of the cancer diagnosis to older versus younger patients.

Findings. Fifty-seven cancer physicians participated—69% medical oncologists, 17% radiation oncologists, and 14% haematologists. Most physicians (52.6%) listed performance status (PS) as the top single factor affecting their treatment decision, followed by cancer type (23%) and the patient's decision (11%). When asked to list the top five factors, they included PS (94.7%), comorbidities (75.4%), cancer stage (75.4%), cancer type (75.4%), patient's decision (52.6%), and age (51%). Seventy-two per cent of physicians indicated a general lower inclination to treat an older patient aggressively, even if the patient was physically fit with minimal comorbidities; 52.6% and 89.5% opted for less intensive treatments for older patients in two hypothetical clinical scenarios of high-grade lymphoma and early breast cancer, respectively. Fifty-four per cent of physicians chose to disclose cancer diagnosis to family members instead of the older patient compared with the preference to disclose cancer diagnosis directly to the younger patient, citing family preference as the main reason. Most participants (61%) have never engaged a geriatrician's help in treatment decisions, although 90% would welcome the introduction of a geriatric oncology programme.

Interpretation. Older age of the patient has a significant impact on the cancer physician's treatment decision-making process. Many cancer physicians in Singapore still practice non-disclosure of cancer diagnosis to the older patient at the family's request. Having a formal geriatric oncology programme in Singapore could help to optimise the management of the geriatric patient with cancer.

The authors declared no conflicts of interest.

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AOS25 PREVALENCE OF PTEN LOSS IN TRIPLE NEGATIVE BREAST CANCER IN THE THAI POPULATION

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Background. Triple negative breast cancer (TNBC) is worse and more aggressive and rapidly relapsing than is hormone-receptor-positive breast cancer. PTEN, one of the important pathways in TNBC, could significantly worsen the disease progression. Primary outcome was the prevalence of PTEN loss in Thai patients with TNBC. Secondary outcome was the relation between PTEN loss and the progression of disease.

Methods. Female patients were diagnosed with TNBC and treated at King Chulalongkorn Memorial Hospital where PTEN was detected by use of immunohistochemistry (28H6 antibody) during June 2006 to December 31, 2011. Micro-array FISH was used to confirm those tumour samples that were HER2 positive.

Findings. Twenty-four (29.3) of 82 TNBC samples were PTEN negative. The average age of the patients with PTEN loss was 50.3 years and the women were mainly premenopausal (53.7%). The PTEN-negative disease was characterised by a tumour larger than 2 cm compared with PTEN-positive tumours (80% versus 68.8%), but not related to the severity of disease, lymphovascular invasion, and lymph node involvement. Although, the average disease recurrence time was worse in the PTEN-negative group than in the PTEN-positive group (17 months versus 24 months, hazard ratio 1.31, 95% confidence interval (CI) 11.13–22.87; $p = 0.05$), the survival rate was not different.

Interpretation. The PTEN loss reported in the patients with TNBC in Thailand is less than that reported in other studies. Although it is not prognostic for disease progression, we suggest that a longer follow-up to ascertain the survival rate of patients with the disease. Our study is the first report of PTEN loss in TNBC in Thailand.

The authors declared no conflicts of interest.

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AOS26 BEVACIZUMAB-INDUCED HYPERTENSION AND USE OF ANTI-HYPERTENSIVE DRUGS IS ASSOCIATED WITH IMPROVED OUTCOME IN PATIENTS WITH SOLID ORGAN TUMOURS TREATED WITH BEVACIZUMAB

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Background. Bevacizumab has been effective in the treatment of various solid organ tumours in several phase III trials. Hypertension is a common side-effect with bevacizumab because of it has anti-VEGF (vascular endothelial growth factor) activity. There are conflicting results about the role of hypertension as a marker for prediction of clinical efficacy. We reviewed the correlation between bevacizumab-induced hypertension and treatment response rate, progression free survival, and overall survival in patients with solid organ tumours.

Methods. We undertook a retrospective review of case records of patients who had histologically proven advanced or metastatic solid organ tumours and had received bevacizumab as part of their cancer treatment between 1st January 2006 and 31st December 2010 in a single cancer institute at a tertiary hospital.

Findings. One hundred and fifty-four of 171 patients had complete records that were available for review. Eighty patients (51.9%) developed grade 2 or greater hypertension with bevacizumab. Thirty-five (43.8%) of these were treated with anti-hypertensive drugs; 29 patients received only one anti-hypertensive drug and the remaining patients received two anti-hypertensive drugs. Median objective response rate was higher in patients who developed bevacizumab-induced hypertension than in those who did not (43.8% versus 16.2%, $p < 0.0001$). Patients who required anti-hypertensive medications during bevacizumab therapy had significantly longer progression-free survival than did those who did not (10.0 months versus 5.2 months, $p = 0.036$), and showed a trend towards improved overall survival (29.4 months versus 18.3 months, $p = 0.058$).

Interpretation. Initiation of anti-hypertensive drugs to control bevacizumab-induced hypertension is associated with better survival and warrants confirmation in prospective trials.

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AOS27 EXTENSIVE JUVENILE NASOPHARYNGEAL ANGIOFIBROMA: A LONG-TERM STUDY OF 40 PATIENTS SUCCESSFULLY TREATED WITH RADIOTHERAPY