conventional open lobectomy for patients with non-small-cell lung cancer (NSCLC), to stratify potential differences in long-term survival outcomes.

Methods: We established a multi-institutional registry for 4138 patients with NSCLC who underwent lobectomy between January, 2000, and December, 2007, from eight institutions in China. Age, gender, histological type, and tumour staging, based on the latest TNM classification, were entered into a non-parsimonious multivariable logistic-regression model. The predicted probability derived from the logistic equation was used as the propensity score for each individual. Based on similar propensity scores, we matched 1356 of the 1584 patients who underwent VATS lobectomy with 1356 of the 2554 patients who underwent open lobectomy, and compared their long-term survival outcomes.

Findings: The mean age of the 2712 matched patients was 59 years (SD 11). After propensity matching, VATS and open lobectomy were similar with regard to important prognostic variables. In multivariate analysis, four prognostic factors were independently associated with improved survival: gender ($p = 0.001$), histological type ($p < 0.001$), pathological staging ($p < 0.001$), and surgery type (lobectomy/sleeve resection vs. pneumonectomy ($p = 0.044$). Patients who underwent VATS versus open lobectomy had similar long-term survival ($p = 0.101$).

Interpretation: The current propensity-score analysis suggests that well-matched patients with NSCLC who underwent VATS lobectomy did not have inferior long-term survival outcomes compared with those who underwent open lobectomy.

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OP9 PREDICTIVE VALUE OF CD24 AND CD44 FOR RESPONSE TO NEOADJUVANT CHEMOTHERAPY AND PROGNOSIS IN PATIENTS WITH PRIMARY BREAST CANCER

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Background: We investigated the significance of CD24 and CD44 expression for predicting response to chemotherapy, and prognosis, in patients with primary breast cancer.

Methods: Diagnosis of breast cancer was confirmed by core-needle biopsy, and immunohistochemical studies were performed. Preoperatively, patients received anthracycline-containing chemotherapy. Expression of CD44 and CD24 was assessed immunohistochemically and the association with chemotherapy response and prognosis was analysed.

Findings: 139 women were enrolled in this study between 2001 and 2004. In correlation analysis, CD24 expression was negatively associated with pathological response to chemotherapy ($p = 0.0003$). A machine learning technique with an alternating decision tree showed that four logical rules are involved in predicting response, depending on the combination of CD24, HER2, tumour stage, CD44, progesterone receptor, and patient age. In survival analysis, patients who were CD44 (++) showed a significantly favourable prognosis compared with others ($p = 0.0002$). Multivariate analysis showed that CD44 expression had an independent prognostic value ($p < 0.001$).

Interpretation: We found a significant correlation between CD44 expression and prognosis, and between CD24 expression and response to chemotherapy. CD24 and CD44 expression could be useful predictive markers, although further studies are needed.

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OP10 CLINICAL UTILITY OF SURVIVIN GENE EXPRESSION IN PATIENTS WITH TRANSITIONAL-CELL CARCINOMA OF THE URINARY BLADDER

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Introduction: The American Cancer Society estimated 70,980 new cases of bladder cancer in the USA during 2009, with approximately 14,330 bladder-cancer-related deaths during the same period. Cystoscopy, the gold standard diagnostic evaluation for detection of bladder cancer and surveillance after therapy, is invasive, expensive, and unpopular among patients. Urine cytology, as an adjunct to cystoscopy, is less sensitive for low-grade tumours. This study evaluated the clinical significance of survivin (an inhibitor of apoptosis) mRNA expression in diagnosis of transitional-cell carcinoma (TCC) in patients with bladder cancer.

Methods: Quantitative detection of survivin mRNA expression was evaluated in exfoliated cells in urine, by use of real-time quantitative (qRT)-PCR, in 135 patients with suspicion of new or recurrent bladder cancer, prior to transurethral resection. Of 135 cases, 98 were histologically proven TCC, whereas 37 had other, benign urological diseases. Fifteen healthy volunteers were also included, as well as 62 patients with treated superficial bladder cancer who had a current negative biopsy and were receiving follow-up care.

Findings: Urine survivin expression detected bladder cancer with higher sensitivity (85.25%, 95% CI 73.8–93.0%) and specificity (100.00%, 90.4–100.0%) than urine cytology, which showed 52.29% sensitivity (42.5–61.9%) and 87.88% specificity (77.5–94.6%). In the 62 treated patients, urine survivin expression had 22.92% sensitivity (12.0–37.3%) and 92.86% specificity (66.1–98.8%) for detecting bladder cancer. Surprisingly, among the 62 treated patients, 13 (21%) showed survivin expression. Follow-up of these patients for 1 year revealed recurrence of TCC in nine patients (69%).

Interpretation: This study shows the clinical utility of survivin expression in new or recurrent bladder cancer, and in patients with a negative biopsy receiving follow-up care. Thus, highly sensitive and specific determination of survivin in exfoliated cells in urine, by use of qRT-PCR, seems to provide a simple, non-invasive diagnostic biomarker for routine screening of bladder cancer.

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OP11 PROGNOSTIC SIGNIFICANCE OF F-18 FDG-PET/CT IMAGES IN CURATIVELY RESECTED GASTRIC CANCER

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Background: The role of F-18 FDG-PET/CT in gastric cancer is limited in some cases by gastric histology. This retrospective study was designed to assess the accuracy of F-18 FDG-PET/CT for imaging stomach cancer, and its correlation with other clinicopathological findings, including its role as a prognostic factor.

Methods: 431 patients who underwent F-18 FDG-PET/CT before surgery for gastric cancer were included in this study, from December, 2006, to May, 2010. The mean age was 62 years (SD 11.6) and the male-to-female ratio was 265:167. Patients were divided into three groups according to the maximal standardised uptake value (SUVmax) of the tumour. All patients' medical records were reviewed, including surgical and pathological results. All parameters were compared by one-way ANOVA and χ^2-test. Survival curves were calculated using the Kaplan–Meier method, and the statistical difference in prognosis was analysed using a generalised log-rank test.

Findings The mean tumour SUVmax was 6.51 in surgically treated stomach cancer. Group 1 included 175 patients with SUVmax of 0, group 2 was 124 patients with SUVmax lower than 5, and group 3 was 133 patients with SUVmax $\geqslant 5$. The intensity of FDG uptake correlated with tumour size ($r^2 = 0.103$, $p < 0.001$), and showed significant difference according to TNM stage, tumour grade, lymphovascular invasion, nerve invasion, and sex. SUVmax was higher in poorly differentiated tumours and in men. Apart from SUVmax, all of the pathological parameters, including TNM stage, tumour grade, lymphovascular invasion, and nerve invasion, were not associated with median survival.

Interpretation: The SUVmax of F-18 FDG-PET/CT of surgically treated gastric cancer correlated with TNM stage, tumour grade, lymphovascular invasion, nerve invasion, and sex. SUVmax also correlated with median survival.

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OP12 XPD/ERCC2 CODON 751 AND XRCC1 CODON 280 POLYMORPHISMS AND THE RISK OF NASOPHARYNGEAL CARCINOMA IN MALAYSIA

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Background: According to the Malaysian National Cancer Registry, nasopharyngeal carcinoma (NPC) was the third most common cancer among men in peninsular Malaysia in 2006. Variations in specific DNA repair genes alter individual cancer risk, and the DNA repair system has a crucial role in maintaining the integrity of the human genome. Xeroderma pigmentosum complementation group D (XPD)/excision repair cross-complementing group 2 (ERCC2) encodes a helicase that participates in nucleotide excision repair. This variant allele of polymorphism XPD Lys751Gln has been associated with increased DNA adduct levels, and with low DNA repair capacity. Another gene, the X-ray cross complementing group 1 (XRCC1) encodes a protein involved in the base-excision repair pathway. Arg280His is located in the nuclear antigen-binding region of proliferating cells. Reports suggest that an Arg280His variant protein is defective in localisation of damaged sites in the chromosome, thereby reducing the efficiency of base excision repair. In this study, we investigated the possible association of these two polymorphisms with an increased risk of developing NPC in the Malaysian population.

Methods: A molecular epidemiological study was done using a hospital-based case-control study design. A total of 113 cases and 130 controls were available for study, matched for age, sex, and ethnicity. Single nucleotide polymorphism (SNP) genotyping was carried out using a PCR-restriction fragment length polymorphism (RFLP) method.

Findings: A total of 113 cases and 130 controls were analysed. The frequency of the XPD codon 751 homozygous wild-type Lys/Lys genotype was 87.6% (99/113) in cases and 73.9% (96/130) in controls; the heterozygous Lys/Gln genotype was 12.4% (14/113) in cases and 25.4% (33/130) in controls; and the Gln/Gln genotype was 0% (0/113) in cases and 0.7% (1/130) in controls. For XPD/ERCC2 codon 751, an odds ratio (OR) of 2.41 was observed (95% CI 1.17– 4.97, $p = 0.017$). Risk of NPC was nearly two and a half times higher for individuals with the homozygous wild-type Lys/Lys grenotype than for the heterozygous Lys/Gln genotype, adjusted for age, sex, and ethnicity. To our knowledge, there have