all patients in the study. For tumours from Vietnamese patients, hormone-receptor status was analysed by immunohistochemistry, using an automated slide stainer (Bench MarkXT, Ventana) in combination with anti-ER (SP1 250) and anti-PgR (clone 1E2) rabbit monoclonal antibodies. Tumours with 10% or more stained nuclei were considered receptor positive. Tumours from Swedish patients were analysed with an enzyme immunoassay, with a cut-off point of 0.10 fmol/μg DNA as positive. The hormone-receptor frequencies between populations were compared according to clinicopathologic features.

*Findings*: Compared with Swedish patients with similar menopausal status, the ER-positive rate was higher in premenopausal Vietnamese patients (71% vs. 58%, $p = 0.007$) and lower in postmenopausal Vietnamese patients (45% vs. 72%, $p < 0.001$). PgR-positive tumours were found in 58% of premenopausal and 25% of postmenopausal Vietnamese patients. The corresponding figures for Swedish patients were 73% and 66%, respectively.

*Interpretation*: ER positivity in Vietnamese patients decreased gradually with rising patient age, by contrast with the trend observed for Swedish patients, who showed a gradual increase with age. PgR positivity was lower for Vietnamese than for Swedish patients, regardless of age or menopausal status. Our findings suggest that a high percentage of young patients could benefit from endocrine therapy, and indicate a limited benefit among postmenopausal Vietnamese patients.

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## OP6 CLINICAL SIGNIFICANCE OF DOWN-REGULATED SPARCL1 IN HUMAN GASTRIC CANCER

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*Background*: SPARC-like protein 1 (SPARCL1) is an extracelluar matrix glycoprotein involved in many physiological functions. Studies have shown an important role for SPARCL1 in cancer development and progression.

*Methods*: Tissue microarray blocks were constructed based on 1072 Chinese patients, containing gastric-cancer tissue and adjacent normal-mucosa tissue. We analysed expression of SPARCL1 from mRNA and at the protein level, using real-time quantitative polymerase chain reaction (qRT-PCR), semi-quantitative PCR, immunohistochemistry (IHC), and Western blotting. We analysed loss of heterozygosity at the SPARCL1 gene locus, using ten tumour and matched normal-tissue pairs.

*Findings*: SPARCL1 mRNA was substantially lower in tumour specimens than in normal tissues. Down-regulation of SPARCL1 protein was detected in 413 (38.7%) of 1072 primary gastric-tumour tissues. Significant differences in expression were found according to histological type, tumour size, depth of invasion, regional lymph-node involvement, TNM stage, and differentiation. Low expression of SPARCL1 was more common in poorly differentiated and undifferentiated tumour tissues (51.1%) than in well and moderately differentiated tumours (29.9%). Kaplan–Meier survival curves showed that SPARCL1-positive patients had longer median survival than SPARCL1-negative patients (59 months vs. 28 months, $p = 0.001$). Our data also showed significantly lower 5-year survival for patients with reduced expression of SPARCL1 (37.8%) than for patients with high expression (49.7%; $p < 0.001$). The incidence of loss of heterozygosity for each individual marker was 12.5% (1 of 8) for D4S2462, 20% (2 of 10) for D4S2929 and 33.3% (3 of 9) for SPARCL1.

*Interpretation*: Our study revealed the clinical significance of SPARCL1 expression, providing a basis for a novel negative biomarker in gastric-cancer progression and prognosis. Furthermore, SPARCL1 protein might be considered a potential differentiation marker.

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## OP7 BRACHYTHERAPY VERSUS EXTERNAL-BEAM BOOST IN NEOADJUVANT RADIATION THERAPY OF LOCALLY ADVANCED RECTAL CANCER – WITHDRAWN

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## OP8 VIDEO-ASSISTED THORACIC SURGERY LOBECTOMY FOR NON-SMALL-CELL LUNG CANCER—PROPENSITY-SCORE ANALYSIS BASED ON A MULTI-INSTITUTIONAL REGISTRY

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*Background*: We did a multi-institutional propensity-matched study comparing video-assisted thoracic surgery (VATS) with

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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.