with lung cancer who have resectable disease. This study was performed to identify whether the ability to adapt tumor tissue from resectable (stage I to IIIa) non-small cell lung cancer was associated with a poorer prognosis and an increased risk for early tumor recurrence. We attempted to culture a tumor specimen obtained from 90 patients with resectable non-small cell lung cancer. We used a culture medium conditioned by exposure to the lung cancer cell line A549-1, a known producer of autocrine lung cancer growth factors, and provided tumor colony scaffolding using a feeder layer of inactivated fibroblasts, and found these measures improved tumor culture yields. Twenty-two cell lines were obtained, a success rate of 24.4%. Tumor recurrences were more common (79%) among the culture-positive patients than among the culture-negative patients (37.5%; $p < 0.002$). For all patients, survival at 19 months in the culturepositive patients was 50.0%, compared with 83.6% in the culture-negative patients ($p < 0.005$). The median survival for the culture-positive patients was 15 months, versus 21.7 months for the culture-negative patients ($p < 0.004$). The establishment of a culture was a predictor of shortened survival for patients with stage I disease. In patients with stage I disease, survival at 19 months was 54.5% for the culture-positive patients, versus 89% for the culturenegative patients ($p < 0.02$). On the basis of our findings, the ability to adapt tumor specimens to cell culture appears to be a negative prognostic indicator for surgically resectable non-small cell lung cancer. The results of culture of the primary tumor may be used to more closely estimate the individual patient's risk for recurrence and determine his or her potential need for adjuvant therapies.

Preoperative staging of carcinoma of the bronchus: Can computed tomographic scanning reliably identify stage III tumours?

White PG, Adams H, Crane MD, Butchart EG. *Department of Radiology, Llandough Hospital, NHS Trust, Penarth, South Glamorgan CF64 1XX.* Thorax 1994;49:951-7.

Background: The aim of preoperative computed tomographic (CT) assessment of patients with carcinoma of the bronchus is to stage the tumour accurately, and forewarn the surgeon of any possible local extrapulmonary extension of tumour in patients considered to have potentially resectable disease. The ability of CT scanning to differentiate between conventionally resectable lung cancer (TNM stages I and II), locally advanced but resectable lung cancer (TNM stage IIIa), and locally advanced but unresectable lung cancer (TNM stage IIIb) was determined in a group of patients accepted for surgery. *Methods:* Computed tomographic scans of 110 patients who underwent thoracotomy for intended resection of carcinoma of the bronchus, including 52 cases with stage III and 58 cases with stage I or II disease, were reviewed and the CT features and radiological interpretations correlated with the surgical and pathological findings. *Results*: Thirteen CT scans were judged not to have been of diagnostic quality: of the remaining 97 cases 45 had stage III lung cancer, of whom 30 had successful resections, and 52 had stage I or stage II tumours. There was no difference in the frequencies of CT observations - including contiguity of tumour and mediastinum or chest wall, apparent mediastinal or chest wall invasion, proximity of tumour to the carina, mediastinal nodal enlargement, pulmonary collapse or consolidation and pleural effusion - in patients with stage I/II disease and patients with stage III disease. Similar results were found when the same observations were compared in all patients with resected disease and those with unresectable tumour. Sensitivity and specificity of CT was 27% and 96% respectively for tumour unresectability, 50% and 89% for mediastinal invasion, 14% and 99% for chest wall invasion, and 61% and 76% for mediastinal nodal metastases. Only 19 of 45 stage III tumours were correctly identified as being stage III and resectable or unresectable. *Conclusions:* In patients being considered for thoracotomy for resection of lung cancer, CT scanning used as the sole method of staging is of limited value for differentiating between stage I/II and stage III tumours. Patients should not be denied the opportunity for curative surgery on the basis of equivocal CT signs.

A small cell bronchogenic carcinoma associated with tumoral hypophosphatacmia and inappropriate antidiuresis

Robin N, Gill G, Van Heyningen C, Fraser W. *Department of Medicine, Walton Hospital, Liverpool L9 1AE.* Postgrad Med J 1994;70:746-8.

A patient is described with small cell carcinoma of the lung, associated with profound hypophosphatacmia and hyponatraemia. Increased phosphate excretion and inappropriately high urine osmolality were observed. The abnormalities are consistent with tumoral hypophosphatacmia and inappropriate antidiuresis. These tumour-related metabolic abnormalities have only been described once before with this malignancy.

Prognostic value of a 90kD subunit containing glycoprotein tumor-associated antigen specific immune complexes in lung cancer patients

Gupta RK, Morton DL. *John Wayne Cancer Institute, 2200 Santa Monica Blvd, Santa Monica, CA 90404.* Dis Markers 1994;12:51-61.

An ELISA to detect a glycoprotein TAA-specific immune complexe (IC) has been developed utilizing a murine monoclonal antibody, AD1-40F4, that recognizes a 90kD subunit of the antigen. In this study we determined the applicability of the assay to assess the presence of the glycoprotein TAA-IC in lung cancer patients. The incidence of glycoprotein TAA-IC was 63% (33/89), significantly higher ($p < 0.05$) than normal controls (3.2%; 8/250). Comparative analyses of pre- and post-operative sera of non-small cell lung cancer patients revealed that in 30% (20/66) of patients, the ELISA value for the marker did not become negative, i.e., decrease below the cut-off level (0.410 OD(nm)) after surgical resection of the tumor. It is postulated that these patients either had extensive disease or microscopic metastases that were not resectable. Evaluation of post-operative glycoprotein TAA-IC results in relation to disease recurrence revealed a significant association between the presence of the antigen in serum and disease recurrence. There did not appear to be any association between the glycoprotein TAA-IC and the other conventional marker, CEA; however, using more than one marker increases the incidence of detection of the disease.

Gastrointestinal metastases from lung cancer: Report of a case

Liu N-J, Chiu C-T, Wu S-S, Lin S-M, Chen P-C, Wu C-S et al. *Dept. of Hepato-Gastroenterology, Chang Gung Memorial Hospital, 199 Tung Hwa North Road, Taipei 10591.* Chin J Gastroenterol 1994;11:32-8.

The gastrointestinal tract is a rare site of metastatic spread. A case of lung cancer with gastrointestinal metastases was reported. This 36-year-old patient had a history of perforated peptic ulcer and was treated with a Billroth II subtotal gastrectomy 18 years ago. He was found to have a right upper lobe lung mass and received lobectomy in our hospital one month prior this admission. He was readmitted to the hospital because of intestinal obstruction. Due to persisting symptoms, a laparotomy was performed 7 days after admission. Two ileal tumors causing intussusceptions of the ileum at two different sites and multiple jejunal tumors were found. Thirteen days after the operation, the patient developed episodes of upper gastrointestinal bleeding. Panendoscopy showed multiple polypoid tumors and one 'volcanolike' lesion in the remnant of stomach and proximal intestine. Histologic examination of the resected tumors from the small bowel, endoscopic biopsy from the stomach, and the previously resected tumor from the lung revealed similar cancer cell morphology. The cancer cells were also found mainly involving the submucosal layer of the gastrointestinal tract. These suggested the diagnosis of lung cancer with gastrointestinal metastases. We review the clinical presentation and endoscopic findings of this unusual condition.

Prostatic metastasis of a small cell lung cancer in a young male

Madersbacher S, Schatzl G, Susani M, Maier U. *Department of Urology, University of Vienna, Wahringer Gurtel 18-20, A-1090 Vienna.* Eur Urol 1994;26:267-9.

The case of a 23-year-old male with a solitary prostatic metastasis of a small cell lung cancer is reported. After diagnosis was established by ultrasound-guided transrectal biopsies and bronchial lavage, the patient received 7 cycles of polychemotherapy according to the AEO protocol. While the pulmonary tumour responded with a dramatic remission, the size of the prostatic metastasis remained unchanged. Subsequent radiotherapy to the prostate and pelvis (59 Gy) did not result in tumour reduction. Shortly thereafter, the patient developed polytopic metastases and died 16 months after diagnosis. Even in a young male, the presence of a prostatic metastasis should be considered as a potential diagnosis if prostate biopsies are positive for a small cell carcinoma.

Assessment of bone marrow involvement by magnetic resonance imaging in small cell lung cancer: No significant change of staging

Milleron BJ, Le Breton C, Carette MF, Cadranel JL, Akoun GM. *Department of Respiratory Medicine, Hopital Tenon, Paris.* Chest 1994;106:1030-5.

Study objective: This prospective study was performed in an attempt to evaluate (1) the rate of magnetic resonance imaging (MRI) demonstrating bone marrow (BM) abnormalities, (2) the correlation of these abnormalities with a pathologic malignant BM involvement, and (3) the possible modification of