The 46th Annual Fall Anatomic Pathology Slide Seminar

"PULMONARY PATHOLOGY"

Stouffer's Riverfront Towers
Grand Ballroom
St. Louis, Missouri
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9:00 am - 5:00 pm

PRELECTORS

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PLEASE BRING THIS PROTOCOL TO THE SEMINAR
CASE HISTORIES

Case 1

Contributed by Dr. Yangja Jung-Legg
Veterans Administration Medical Center, Boston, Mass.

A 49-year-old black man who was a chronic alcoholic and who had smoked one pack of cigarettes a day for many years was admitted to the hospital for an episode of acute pancreatitis in January, 1978. His physicians found in the chest x-ray film a 1.5 cm. density in the upper lobe of the right lung. In retrospect, the nodule was present in September, 1977, and measured 1 cm. in diameter in chest x-ray films taken elsewhere. Several sputum examinations did not reveal tumor cells. The patient left the hospital against advice before bronchoscopy could be done.

He returned in August, 1978, because of intermittent hemoptysis. Rigid bronchoscopy, mediastinoscopy and liver, spleen and brain scans all were negative. A thoracotomy was scheduled, but the patient once again left the hospital. In December, 1978, the right upper lobe nodule measured 2 x 2.5 cm. and in July, 1979, a new mass appeared in the right peri-hilar region.

He entered the hospital in December, 1979, because of hemoptysis. The bronchoscopist described a lobulated mass occluding the anterior segmental bronchus of the right upper lobe. The surgeons removed the right upper lobe.

A 2.5 cm. firm, white and tan, sharply-circumscribed mass was underneath the pleura of the posterior segment. The anterior segmental bronchus was obstructed by a soft, friable, grey-pink to red, lobulated mass that extended along the entire length of the segmental bronchus and branched out into the subsegmental bronchi, the total length of the solid, cylindrical mass being approximately 5.0 cm. The sections represent the anterior segmental mass.
Two patients, both men, one 65 years old and one 74 years old had pulmonary emphysema. The first, a 100-150 pack-year cigarette smoker was referred from another hospital because of "low salt" found during an annual check-up. Serial serum sodium levels were 124, 118 and 116 mEq/l. with a serum osmolality of 239 mOsm/l. at the same time that the urine osmolality was 607 mOsm/l. The radiologists found a mass in the superior segment of the lower lobe of the right lung. Liver, spleen and brain scans were negative and the bone marrow biopsy contained no tumor. The bronchoscopist could not see a tumor, but the bronchial washings contained tumor cells. The right lung was removed. A 4.0 cm. gray-tan, firm mass surrounded the intermediate bronchus and occluded segmental bronchi of the lower lobe.

The second patient had had a very eventful medical history with nearly ten years of auricular fibrillation, a successfully by-pass grafted abdominal aortic aneurysm, and transient episodes of cerebrovascular insufficiency. In March, he had an episode of pleural effusion with a scant infiltration of the base of the lower lobe of the right lung, thought to be viral pneumonitis. The infiltrate decreased before his discharge. In September, he was admitted to the New England Baptist Hospital because of nocturnal fevers of 101°F. for five days, some sore throat, and weight loss of 20-30 pounds over a year's time. There was a density in the upper lobe of the right lung, but bone metastases could not be demonstrated. Because of drooping of the mouth on the left side, EEG was done, and it was mildly but diffusely abnormal. No tumor cells were found in two sputum specimens. Diabetes mellitus was diagnosed. The physicians thought that he had metastatic carcinoma and give him only supportive therapy. He died in December. A friable gray mass involved the carina, both main bronchi and the mediastinal lymph nodes and extended into both lungs.
Case 3
Contributed by Dr. Archie Y. Hamilton
St. Joseph's Community Hospital, Vancouver, Washington

The parents of a 24-year-old white woman found her collapsed on a couch, still warm, but not breathing. Cardiopulmonary resuscitation was instituted, but she was dead on arrival at the hospital emergency room. The diagnosis was bilateral pneumothorax.

She had suffered bilateral pneumothorax a year previously, had been treated promptly and had recovered completely. Her mother reported that her daughter had been generally well prior to these episodes. As an infant, the patient had been diagnosed as having adenoma sebaceum. She was of average intelligence and graduated from high school with average grades, and she was learning to drive an automobile at the time of her death.

The post-mortem examination did support the diagnosis of bilateral pneumothorax with collapse of both lungs. Multiple bullae were present in the lungs.

Case 4
Contributed by Dr. Frank Vellios
University of Oregon Health Sciences Center, Portland, Oregon

The patient was a six-day-old male with signs and symptoms of respiratory failure. A chest x-ray film revealed multiple cystic spaces with thickened, somewhat nodular areas between the cystic foci throughout the upper lobe of the right lung and most of the right middle and lower lobes. It was felt clinically that the lesion threatened to cause tracheal obstruction. The surgeons removed the right upper lobe, which appeared grossly much like the radiographic description.
Case 5
Contributed by Dr. Lynne Reid
Children's Hospital Medical Center, Boston, Mass.

A 6 lb. 5 oz. baby boy was delivered from a 25-year-old gravida 2, para 1 white woman by elective Caesarian section after a gestation of approximately 37 weeks. The mother had previously undergone Caesarian section for a pregnancy complicated by fetal-pelvic disproportion. At the time of section, the membranes were intact and the mother was not in active labor. Almost immediately following birth, the infant experienced progressive respiratory distress with grunting, flaring and intercostal retractions. Arterial blood gases on 35% oxygen showed a PaO₂ of 59 mm. Hg., PaCO₂ 37 mm. Hg and pH 7.29. Chest roentgenogram showed a finely granular appearance of both lungs with air bronchograms. Antibiotics were instituted for possible sepsis and mechanical ventilatory assistance was begun. A hemorrhagic diathesis developed which was treated with heparin. The infant's respiratory status progressively worsened and increased ventilatory pressures using 100% oxygen were necessary. The final blood gases showed a PaO₂ of 18 mm. Hg., PaCO₂ 164 mm. Hg and pH 6.7. He expired 24 hours after birth.

Case 6
Contributed by Dr. Lynne Reid
Children's Hospital Medical Center, Boston, Mass.

This male infant was born after a 30-week gestation and required prolonged intubation and ventilatory assistance because of severe respiratory distress. A patent ductus arteriosus was ligated at two weeks of age for a significant left to right shunt. One month after birth he was extubated and gradually weaned from supplemental oxygen. During the remaining five months of life, pulmonary function gradually deteriorated with progressive hypoxia and hypercapnia. He had intermittent congestive heart failure with electrocardiographic evidence of right ventricular hypertrophy. Retrolental fibroplasia was noted on ophthalmologic examination and chest x-ray film showed mild cardiacmegaly with increased opacities and
Case 6 (continued)

irregular lucencies in the lung fields. During his last hospitalization on 60% $F_2O_2$, the following arterial blood gases were obtained: $PaO_2$ 38 mm. Hg., $PaCO_2$ 40 mm. Hg and pH 7.35. His demise was presaged by seizures and episodes of bradycardia.

Case 7

Contributed by Dr. Lynne Reid
Children's Hospital Medical Center, Boston, Mass.

A male infant was examined at 11 weeks of age because of progressive wheezing and tachypnea. He was initially treated for bronchiolitis but with incomplete response. A chest roentgenograph showed hyperlucency and increase in size of the upper lobe of the left lung with lower lobe atelectasis. A ventilation-perfusion scan demonstrated marked decrease in both aeration and perfusion of the upper lobe. Medical management was unsuccessful and at 2½ months of age a left upper lobectomy was performed.
Case 8

Contributed by Dr. Lynne Reid
Children's Hospital Medical Center, Boston, Mass.

The patient, a 25-year-old woman, first came to medical attention at 3½ years of age because of failure to thrive, recurrent pneumonia, steatorrhea and rectal prolapse. After the age of 17, she had numerous hospital admissions for exacerbation of pulmonary symptoms with increased dyspnea and sputum production. *Pseudomonas aeruginosa* was repeatedly isolated from sputum samples. Chest roentgenographs showed progressive bronchiectasis and chronic pulmonary disease. Despite advancing disease she continued to remain as active as possible in vocational and social functions. She was in severe respiratory distress on her final hospitalization, had signs of severe congestive heart failure and died.

Case 9

Contributed by Dr. William D. Dolan
The Arlington Hospital, Arlington, Virginia

The patient was a 26-year-old white woman who complained of a chronic cough for three months. The cough was productive of yellow-green, thick, mucoid sputum without blood streaking. In six months, she had lost 10 lbs. and felt tired. She had a strong family history for cancer, smoked one pack of cigarettes a day for ten years, and said that she had had frequent attacks of pneumonia.

No acid-fast bacilli or fungi were found in the sputum, and complement fixation tests for histoplasmosis and coccidioidomycosis were negative. Her sed. rate was 102 and WBC was 16,000/cu.mm. In the x-ray studies of the chest, which included tomograms, the radiologists described a large, thick-walled cavity with irregular outer borders in the anterior segment of the upper lobe of the left lung and without a fluid level. A left upper lobectomy was performed.
Case 9 (continued)

The lobe weighed 400 gm., had fibrinous pleuritis, and contained a large wedge-shaped consolidated area 9 x 6 x 5 cm. The cut surface in the area of consolidation appeared like congealed purulent exudate with foci of liquefaction and a 2 cm. cavity. The edge was sharply demarcated. The hilar lymph nodes were soft and gray and black.

Case 10

Submitted by Dr. Howard J. Christian and Dr. Ellen M. Maher
Carney Hospital, Dorchester, Mass.

The patient was a 40-year-old white man who came to the hospital because of hemoptysis. The chest x-ray studies demonstrated a large mass in the lower lobe of the right lung, but with several other nodules in both lungs. Initial studies were not diagnostic. Since the hemorrhage appeared to be coming from the right lower lobe and was a threat, the surgeon removed the right middle and lower lobes and biopsied a nodule from the upper lobe.

The right lower lobe weighed 1700 gm. and was mostly replaced by a solid, firm, sharply demarcated, yellow mass focally liquefied. Similar single nodules, but much smaller, were present in the middle and upper lobe specimens. The lymph nodes were gray-black.
Case 11

Contributed by Dr. Lynne Reid
Children's Hospital Medical Center, Boston, Mass.

A 5-year-old boy was in good health until 9 months before admission when he was treated for a right lower lobe pneumonia of undetermined etiology. He improved with antibiotic therapy, but 8 months later was found radiologically to have a density in the same lobe. The infiltrate did not clear with continued antibiotics. A sharply outlined 6 x 6 cm. shadow of soft tissue density was noted in the right lung base posteriorly. The primary radiologic consideration was intralobar pulmonary sequestration, but angiography failed to show any evidence of systemic vascular supply to the mass. A right lower lobectomy was performed.

Case 12

Contributed by Dr. Saul Kay
Medical College of Virginia, Richmond, Virginia

The patient was an 82-year-old black man transferred from a geriatric hospital because of the finding of a large mass in the lower lobe of the left lung as seen in the chest x-ray film. Because of mental problems due to advanced arteriosclerosis, he had no reliable previous history. There is no record in the
Case 12 (continued)

geriatric hospital that he had had either previous neoplasms or surgical opera-
tions.

CBC, urinalysis, chemistry profile, EKG and pulmonary function studies all were normal. Bronchoscopy, scalene lymph node biopsies and mediastinoscopy were negative. The surgeons removed the lower lobe of the left lung.

Case 13

Contributed by Dr. H. Paul Wakefield, Holyoke Hospital, Holyoke, Mass.; by Dr. Yangja Jung-Legg, Veterans Administration Medical Center, Boston, Mass.; and by Dr. Merle A. Legg, New England Deaconess Hospital, Boston, Mass.

The patients were three men, ages 34, 40 and 30 respectively. The first reported fever, cough, vomiting, diarrhea and weight loss of twenty pounds while working in New Mexico two months before admission to Holyoke. He was given an antibiotic in New Mexico, but with persistent daily vomiting, cough with insignificant sputum production, daily chills and fever up to 101°F. He had had known exposure to tuberculosis, occasional exposure to asbestos, smoked two packs of cigarettes a day, and smoked marijuana which may have been contaminated with paraquat. In the hospital, he was afebrile and extensive diagnostic studies were negative except for the diffuse patchy infiltrates in both lung fields demonstrated in the x-ray studies. His pulmonary function studies were normal. A lung biopsy was taken.

The second patient was admitted to the V.A. Hospital following the discovery of diffuse bilateral interstitial infiltrates in the lungs found by chest x-ray in January, 1978, following an accident. He denied any symptoms initially and a July, 1977, chest x-ray film was normal. With specific questioning, he concluded that he had lost twenty pounds in six months and had had some "night sweats,
fatigue and morning stiffness" in the past two months. Pulmonary function studies revealed increased functional residual capacity and residual volume and decreased one second forced expiratory volume. Arterial blood gases: pH 7.41, pO₂ 75, pCO₂ 38. A lung biopsy was taken. The specimen contained a grey-green nodular area.

The third man was hospitalized elsewhere in March, 1969, with symptoms of fever, weight loss and productive cough. He was diagnosed as having pulmonary tuberculosis with bilateral cavities and positive sputum cultures. In October, 1969, he complained of severe low back pain, and x-ray studies demonstrated destruction and compression of the second lumbar vertebral body. Later in 1969, he developed headache and left fronto-parietal swelling. There were four lytic lesions in the skull which were treated with 900 rad of unspecified type of radiation. In June, 1970, further pulmonary infiltration was apparent while the patient was receiving isoniazid, ethambutol, pyridoxine and para-aminosalicylic acid. At the same time, he complained of cough, sometimes with yellow sputum, occasional anterior pleuritic pain, low back pain and headache. In August he was transferred to New England Deaconess Hospital. The main findings were those of the chest x-ray films: a diffuse, honeycomb-like infiltrate in both lung fields and a cavity in the posterior sub-segment of the left upper lobe. The surgeons biopsied the lingula, which contained multiple firm gray-white and brown nodules up to 0.7 cm. in diameter.

Case 14

Contributed by Dr. Lynne Reid
Children's Hospital Medical Center, Boston, Mass.

A 2-year-old girl was evaluated for a cardiac murmur and episodes of dyspnea and diaphoresis. She was mildly cyanotic on examination and had a grade III/VI holosystolic murmur at the left upper sternal border. Chest roentgenogram showed
marked cardiomegaly particularly involving the right ventricle. Catheterization studies demonstrated a large atrial septal defect (ASD) of the secundum type with significant pulmonary arterial hypertension (pressure: 75/37 mm Hg). Elective closure of the ASD was done under total cardiopulmonary bypass. The immediate post-operative course was complicated by florid pulmonary edema which responded to administration of lasix and morphine and the mechanical effect of positive end-expiratory pressure. Continued pulmonary congestion prompted a repeat catheterization study when a large subaortic ventricular septal defect (VSD) was found. Two days following the first operation the VSD was closed. The post-operative course was complicated by systemic hypoperfusion, cyanosis and marked pulmonary congestion and edema. Despite vigorous attempts to correct severe metabolic and electrolyte abnormalities, the child expired the following day.

Case 15

Contributed by Dr. Archie Y. Hamilton
St. Joseph Community Hospital, Vancouver, Washington

The patient was a 14-year-old boy who came into the hospital because of rapidly increasing shortness of breath. He had been in the hospital two weeks before with a fulminant episode of shortness of breath with the finding of bilateral pulmonary infiltrates, pleural effusions and hypoxia. The physician also made a tentative diagnosis of Marfan's syndrome. The boy responded rapidly to corticosteroids and intravenous penicillin. The x-ray film after treatment showed resolution of 90% of the infiltrates. He was given two weeks of erythromycin and one week of corticosteroids. The physician saw the patient in his office, at which time the boy had a low-grade fever and moderate dyspnea, but the physician could not find chest signs. Within thirty hours, the patient became markedly dyspneic with a respiratory rate of 42 per min. and was cyanotic. The blood gases on admission were: pH 7.4, pCO₂-22, pO₂-35 while on nasal oxygen. The chest x-ray
Case 15 (continued)

Film showed bilateral fluffy pulmonary infiltrates and pleural effusions like those of the previous episode.

The treatment was intravenous aminophyllin and corticosteroids on his way to the hospital and antibiotics, corticosteroids and oxygen in the hospital. The oxygen was six liters per minute through a nasal tube. He seemed to stabilize and then had a seizure about seven hours after admission and became comatose. Cardiopulmonary resuscitation was required, but he did not recover.

The autopsy was limited to the chest. The prossector found the right lung to weigh 900 gm. and the left 850 gm. The pleural surfaces were leathery and red-tan. The pulmonary parenchyma had a blotchy, hemorrhagic appearance with decreased crepitation.

Case 16

Contributed by Dr. Merle A. Legg
New England Deaconess Hospital, Boston, Mass.

The patient, a 73-year-old white woman, came to the hospital a second time from a nursing home. She had been admitted a month before because of the suspicion of tuberculosis, but she had refused diagnostic procedures and even a therapeutic trial. She was a nurse who had worked in a tuberculosis sanatorium, had a positive tuberculin skin test, and had known calcifications in the upper lobe of the right lung and in the pericardium. She returned with increased cough, shortness of breath, fever, and increasing infiltrates in both lung fields.

The examiner found a grade III/VI systolic murmur at the left sternal border and atrial flutter and fibrillation, which were known previously. The chest x-ray
films demonstrated consolidation of the middle and lower lobes of the right lung. Her hemoglobin was 5.2 g/dL whereas it had been 12.8 g/dL the month before, WBC 13,500 per cu. mm. with 80% polymorphonuclear leukocytes, BUN 62 mg/dL, creatinine 3.1 mg/dL, potassium 5.4 mEq/l., sodium 133 mEq/l. and CO₂ 18 m/1. She was afebrile and lethargic. The physicians gave her blood transfusions, Keflin, isoniazid, streptomycin, and ethambutol. Her cough was weak and productive of blood-stained fluid. She rapidly became disoriented, then cyanotic and died on the fifth hospital day.

At autopsy, the lungs weighed 1250 gm. rt., 550 gm. left. The right lung was firm with scattered white nodules and deep red areas; firm, dark red, subpleural foci, the largest of which was 5.0 x 3.0 x 2.5 cm., and the middle lobe was collapsed. Bronchiectasis was present in both lungs. The left lung did not have the white nodules, but had the other features to a less degree. The lingula was collapsed. Tracheobronchial and pulmonary hilar lymph nodes were mottled black and white. The pulmonary arteries contained multiple atherosclerotic plaques.

Case 17

Contributed by Dr. Washington C. Winn, Jr.
University of Vermont College of Medicine, Burlington, Vermont

The patient was a 67-year-old white man with known chronic obstructive pulmonary disease who came into the hospital in 1977 because of acute fever, cough and shortness of breath. In 1969 and again in 1971 he had had pneumococcal pneumonia. His current symptoms developed over about a week and were accompanied by chills. The cough was productive of scant brown sputum.
On admission, he was obviously dyspneic, respirations were 35 per min., and he had a rectal temperature of 39.5°C. In the chest x-ray film, there appeared predominantly peri-hilar infiltrates and a patchy infiltrate in the upper lobe of the left lung. His WBC was 99000/cu. mm. with 95% lymphocytes. The physicians treated him with nasal oxygen, ampicillin, aminophyllin and furosemide. Sputum and blood cultures grew nothing significant. The pulmonary infiltrates increased rapidly, and he died on the second hospital day.

The autopsy prossector described a right lung of 1425 gm. and left of 650 gm. The cut surface of the right lung appeared consolidated, gray and fibrinous with some of the same on the left. In addition, there was a solid mass 2 x 1.5 x 1.0 cm. in the left lower lobe. The sections came from the right lung.

Case 18

Contributed by Dr. Merle A. Legg
New England Deaconess Hospital, Boston, Mass.

A 34-year-old white woman came into the hospital because of increasing shortness of breath with exertion in the previous one to two weeks. She developed a fever of 102.4°F. two days before admission and a cough productive of yellow sputum. In November, 1977, she had been found to have Hodgkin's disease, nodular sclerosis type, with cervical and mediastinal involvement and the superior vena caval syndrome. She received 4000 rad in the mantle distribution and 3500 rad to the para-aortic lymph nodes. With tracheal compression in June, 1978, she was given 1400 rad to the right paratracheal region. The chemotherapists instituted MOPP (nitrogen mustard, oncovin, prednisone and procarbazine) at the same time. In January, 1979, she had bronchial obstruction and collapse of the upper lobe of her left lung. The radiotherapists gave the left hilar region 1600 rad.
and the chemotherapists started her on adriamycin, bleomycin, velban and DTIC. She developed neutropenia and pneumonia. In July, 1979, because of continuing fever and shortness of breath, the radiotherapists gave the left lung 2000 rad. The chemotherapy was switched to CCNU.

On the last admission in September, 1979, she was febrile (103.8°F), short of breath and had anterior cervical and supraclavicular lymphadenopathy. The chest x-ray film demonstrated bilateral, diffuse "interstitial and alveolar infiltrates," was hypoxic and had a 92% granulocytosis with a WBC of 5,800/cu.mm. A skin lesion on her back looked like herpes simplex to the examiner. A wide range of cultures produced none of the suspected organisms. The internists treated her with trimethoprim and sulfamethoxazole, gentamycin, cephalexin and methylprednisolone. Viral throat cultures were positive for herpes simplex. Even with 70% oxygen, later increased to 85% oxygen, she was mildly hypoxic. The pulmonary infiltrates grew worse, BUN and creatinine started to rise and the gentamycin was changed to erythromycin. She died on the sixth hospital day.

The autopsy prosector described lungs of 980 gm. right and 750 gm. left. The pulmonary parenchyma was replaced by ill-defined, diffuse, yellow-white, firm material, more defined nodules, and focally a red, wet, fibrillar pattern with thick alveolar walls.
A 39-year-old white man, who had been diagnosed as having widespread nodular malignant lymphoma eight years before the final admission, came into the hospital in September, 1976, because of increasing size of left cervical lymph nodes with a draining sinus having developed during outpatient radiation therapy. In the week before admission, he developed fever and then a dry cough.

His malignant lymphoma had been treated first by nitrogen mustard and later by several cycles of Cytoxan, Vincristine, Prednisone and Procarbazine. He also had had total body radiation, and finally C-MOPP chemotherapy. In the last seven months, he was given only corticosteroids. He had had an episode of pneumonitis and draining right cervical lymph nodes two months before the last admission and received multiple antibiotics.

When he entered the hospital, he was febrile with 101°F. and had a very large, ulcerated left submandibular lymph node. The chest x-ray films demonstrated a wide mediastinum and peri-hilar pulmonary infiltration. The physicians gave him Keflin and gentamycin with no response, but he became afebrile on chloramphenicol. Because of hematologic findings, the chloramphenicol was discontinued and he was put back on three antibiotics. He slowly became disoriented and died one month after admission.

At autopsy, the prosector described a 680 gm. right lung and 520 gm. left lung. The lungs felt firm and there were ill-defined gray-yellow areas on the cut surface with a background of pink-red parenchyma in which the air cell pattern seemed more normal. A small caseating nodule 0.8 cm. in diameter was in the left lower lobe. The bronchial and vascular trees appeared normal. The mediastinal and tracheobronchial lymph nodes were large, rubbery and gray-tan.
Case 20

Contributed by Dr. Merle A. Legg
New England Deaconess Hospital, Boston, Mass.

A 54-year-old white woman was referred to the New England Baptist Hospital from Cape Cod because of a cough and infiltrate of the lower lobe of the left lung that persisted. In April, 1978, the surgeons had removed a benign parotid tumor. She felt that she had had a cough, rattling noise in her chest and increasing shortness of breath since that operation. In April of 1979 she developed a fever of 103-104°F. and the Cape Cod physicians found the left lower lobe infiltrate. They treated her with antibiotics to which there was some response, but the left lower lobe infiltrate persisted. She had been a 20 pack-year cigarette smoker, but stopped ten years before this episode. She had worked in an automobile garage for 17 years.

When she was transferred in June, 1979, no other studies, including bronchoscopy, were significant. The surgeon removed the left lung when he found infiltrates in both lobes at the time of the thoracotomy. The lower lobe weighed 210 gm. and the upper, 150 gm. An ill-defined, nodular pink to white mass up to 6.0 cm. in greatest dimension occupied much of the basal segments of the lower lobe and small nodules were present in the lingula scattered over a 4.0 cm. diameter area. The bronchial and vascular trees looked normal.

Case 21

Contributed by Dr. L. Ralph Rohr
Tucson Medical Center, Tucson, Arizona

The patient, a 72-year-old man, had had pneumonia of the middle lobe of the right lung and the density of the lobe persisted for two years without demonstrable reason. A needle biopsy produced necrotic debris suggestive of a granuloma. The surgeons removed the right middle lobe.
Case 21 (continued)

The lobe weighed 80 gm. Subpleurally there was a circumscribed, but not encapsulated, indurated, gray-white and tan, partially necrotic, partially cystic area, measuring 6 x 4 x 2.8 cm.

Case 22

Contributed by Dr. Richard B. Marshall
Bowman-Gray School of Medicine, Winston-Salem, North Carolina

The patient was a six-year-old boy who had had hemoptysis and recurrent pneumonia for about twelve months. A mediastinal mass was evident in the chest x-ray film. At bronchoscopy, the examiner found a protruding intra-bronchial mass suggesting a bronchial adenoma in the left upper lobar bronchus. A left upper lobectomy was performed.

The lobe measured 15.0 x 7.0 x 5.5 cm. A protruding, lobulated, fleshy, soft mass 0.9 x 0.6 cm. was in the dilated lobar bronchus. This mass was continuous with a sharply demarcated, bright yellow-tan mass 3.5 x 2.5 x 2.2 cm. Bronchi distally were dilated, cystic and filled with mucoid material. The lymph nodes did not contain tumor.
Case 23

Contributed by Dr. Merle A. Legg
New England Deaconess Hospital, Boston, Mass.

A 39-year-old white woman fell from a motorcycle and injured her head. After four days of dizziness and headaches accompanied by heavy alcohol consumption and the use of chlordiazepoxide (Librium R), she was found comatose and brought to the hospital. Her aortic valve had been replaced three years before at another hospital, she had suffered a right cerebrovascular accident from which she had recovered completely, but she was on long-term anticoagulant therapy. Her general status progressively deteriorated to decerebrate and she died.

Her lungs each weighed 450 gm., there was bubbly, mucoid material in her segmental bronchi, and the left lower lobe was collapsed. The cut surfaces of the lungs were red-brown and exuded a small amount of red-brown fluid. The lungs felt rubbery, but the architecture was not disrupted.

Case 24

Contributed by Dr. David B. Kaminsky
Eisenhower Medical Center, Rancho Mirage, California

The patient, a 72-year-old white woman, came to the hospital because of shortness of breath on exertion, weakness and rectal discomfort. Fifteen months before this admission, the surgeons had widely excised a basosquamous carcinoma of the anorectal region. Following the diagnosis of an inguinal lymph node metastasis ten months after the initial procedure, the physicians gave her a course of bleomycin, with an accumulated total dose of 300 mg. Her dyspnea had started three days before the last admission. She was a twenty-year, insulin-dependent diabetic, had a multinodular goiter with hypothyroidism and was a long-term, one-pack-a-day cigarette smoker.
There were bilateral, ill-defined, diffuse and reticular infiltrates demonstrated by the chest x-ray film. Pulmonary function studies were said to show restrictive, obstructive and diffusion defects. She was thought to have a metabolic encephalopathy and died on the seventh hospital day.

At autopsy, the prosector described lungs which together weighed 1130 gm. After insufflation and fixation, the lungs were pale brown, the air cell pattern was accentuated, and there was an increase in density of the lung parenchyma. Particularly in the lower lobes, strands produced a "delicate microcribiform network."

Case 25
Contributed by Dr. Allan W. Handy and Dr. Louis R. Ziegra
Frisbie Memorial Hospital, Rochester, New Hampshire

The patient was a 57-year-old white man who sought help because of shortness of breath. About three weeks before his admission, he had had a "chest cold" and since then was short of breath on exertion and especially with walking in cold air (it was January). He had little cough except some in the morning the last few days productive of scant brown sputum, occasionally with red streaks. He may have lost weight, but the examiner was skeptical. He was a "heavy smoker," worked as a highway laborer for a nearby town with no known particle exposure, but had worked for six years as a molder at the Navy Yard foundry 15-20 years earlier. Sixteen years before his admission, he had pleurisy and eleven years before he had had left upper lobe lobar pneumonia which had completely resolved.

The radiologist described the chest x-ray film, as follows: "..... granular-like infiltration involving the entire lung field, but more marked at both bases."
The only significant laboratory findings were hemoglobin of 17.8 gm./dL., hematocrit of 55% and WBC of 16,300/cu.mm. with a normal differential. Scalene lymph nodes were biopsied, but were negative. In the three weeks between the first admission and lung biopsy, the chest x-ray findings were constant, but the patient felt less short of breath. At the time of the lung biopsy through a small right thoracic incision, the surgeon reported that the lung felt indurated and nodular, and he biopsied both the right middle and lower lobes. The specimen was cultured, producing *Staphylococcus aureus* coagulase negative growth at six days. No fungi or acid fast bacilli were found.
Case 1. Bronchial carcinoid with concomitant undifferentiated carcinoma, small cell type

Case 2. Undifferentiated carcinoma, small cell type ('Inappropriate ADH Syndrome' in one case)

Case 3. Lymphangioleiomyomatosis in patient with tuberous sclerosis

Case 4. Cystadenomatoid malformation

Case 5. Hyaline Membrane Disease (Infant Respiratory Distress Syndrome)

Case 6. Bronchopulmonary dysplasia

Case 7. Childhood lobar emphysema

Case 8. Cystic fibrosis

Case 9. Hodgkin's Disease

Case 10. Lymphomatoid granulomatosis

Case 11. Spindle cell pseudotumor

Case 12. Carcinosarcoma

Case 13. Eosinophilic granuloma

Case 14. Lung changes with ventricular septal defect

Case 15. Primary pulmonary hypertension (veno-occlusive)

Case 16. Polyarteritis nodosa

Case 17. Legionnaire's Disease and chronic lymphocytic leukemia
Case 18. Pneumocystis pneumonia and secondary alveolitis with Hodgkin's Disease

Case 19. Cytomegalovirus pneumonia and focal herpes pneumonia with malignant lymphoma

Case 20. Bronchiolar carcinoma

Case 21. 'Intravascular bronchiolo-alveolar tumor'

Case 22. Mucous cell tumor (muco-epidermoid carcinoma)

Case 23. Talc lung

Case 24. Fibrosing alveolitis (Bleomycin)

Case 25. Alveolar proteinosis