Selected Abstracts

Vagal Dysfunction and Sudden Infant DeathSyndrome; One Possible Cause and Its Management. Elizabeth Coryllos. N.Y. State J. Med., 1982, 82:731-735.
SUDDEN INFANT DEATH SYNDROME has received considerable investigation during the past three years. In this article, a detailed review of the physiologic and anatomic characteristics of the bagus nerve, possible causes of sudden infant death and techniques for diagnosis and treatment of this syndrome are presented. Some patients appear to benefit from acute or chronic administration of atropine, and the possibility that selective vagotomy may offer a practical alternative to stimulation with a pacemaker is raised.
Donald C Watson

On the End Results of Surgical Treatment of Lung Cancer Patients Depending on the Type of Anesthetic Agent. R.I. Wagner, I. Rid, A. I.Evtukhin and other. J. Surg. OncoL, 1981, 18:39-46.
THE INFLUENCE of the type of anesthetic agent upon the end result of surgical treatment was evaluated retrospectively. Three hundred and forty-six 50 to 70 year old patients with carcinoma of the lung were treated surgically without prior or subsequent chemotherapy or radiotherapy. Anesthesia was induced with ether in 220 patients, with halothane in 103 and by neuroleptanalgesia in 23. All anesthetic agents were administered in a mixture of nitrous oxide. All patients were operated upon in the same clinic by a limited number of surgeons of the same school of surgery. No significant differences were noted among the patients in the three groups with respect to their age, stage of tumor or type of tumor.
The yearly survival rates for the first year were 76.0 percent for those patients who were given ether, 85.4 per cent for those with halothane and 58.8 per cent for those with neuroleptanalgesia. The rates were more dramatic for the second year follow-up study: a survival rate of 56.8 per cent for ether, 69.7 per cent for halothane and 35,0 per cent for neuroleptanalgesia. At four years, the survival rate was 44.3 per cent for patients with ether, 66.2 per cent for patients with halothane and 30.2 per cent for patients with neuroleptanalgesia. In addition, the survival rates of the patients who underwent partial resection are higher than those of the patients who underwent radical pneumonectomy when the same anesthetic was used. For the same surgical procedure, however, the survival rates of the patients who were anesthesized with halothane were higher than those of the patients who were narcotized with ether. There was an inverse correlation between the stage of the tumor and the length of survival, regardless of the type of anesthetic, although those given halothane had a tendency for higher survival rates than those given ether, this is particularly true for patients with Stage II tumors. The type of anesthetic agent appeared to be irrelevant in patients with metastases. In patients without metastases, however, the survival rates were higher for those given halothane than for those given ether.
Judith S. de Nuno

Evaluation of Limited Resection of the Lung for Treatment of Lung Cancer. Yasunori Koga, Masao Tomita, Koichiro Shibata and Toshio Onitsuka.Jpn. J. Sing., 1982, 12: 1-5.
APPARENTLY, the authors define a limited resection as being less than a lobectomy. Twenty-nine patients who underwent wedge resection and a remaining five patients who were treated by segmental resection of the lung are included in this study. It was thought that the prognosis of those who underwent limited resection in selected instances did not differ significantly from that of those treated by lobectomy. Recurrences were seen exclusively in patients with Stage 11 disease, most of whom had a poorly differentiated type of cell disease and had involvement of blood vessels. It is thought that the

results of this study show that limited resection is feasible for patients who have a tumor of less than 3 cm. Which is located at the periphery of the lung and a histologic pattern of highly differentiated carcinoma.
R.Thomas McLaughlin

Calcification in Pulmonary Metastase. Charles W. Maile, Bruce A. Rodan, J. David Godwin and others. Br. J. Radiol., 1982, 55: 108-113.
SINCE Good and coworkers, in 1953, suggested that calcification of a nodule of the lung was a reliable roentgenographic criterion of a benign condition, several exceptions to this rule have been reported. Calcification was observed in pulmonary metastases of several sarcomatous tumors, such as osteogenic sarcoma, chondrosarcoma, synoviosarcoma and giant cell sarcoma. It also was described in epithelial malignant conditions, such as papillary and mucinous adenocarcinoma. Finally, calcification was frequently observed after chemotherapy or irradiation of pulmonary metastases, probably due to secondary calcification following hemorrhage, degeneration or necrosis of metastases of the tumor of the lung.
Three unusual instances of calcified metastases are reported upon. A 55 year old woman who had a soft tissue malignant mesenchymoma of the thigh with spiculated calcifications had a solitary calcified pulmonary chondrosarcoma nodule two years after excision of the primary tumor of the thigh. A 41 year old woman who had a fibrosarcoma arising from a giant fibroadenoma of the breast which was excised 17 years earlier had a histologically proved ossified sarcoma of the lung. A 43 year old man with medullary carcinoma of the thyroid gland had multiple calcified nodules of the lung, and biopsy proved calcified metastatic adenocarcinoma of the liver. Histologic proof of the nature of the pulmonary nodules was not given, and serial roentgenographic ‘studies showed no significant changes of the pulmonary nodules over the next few years. In view of these data, roentgenographic detection of calcification should no longer be considered a proof of the benign nature of pulmonary nodules.
Erich W. Pollak

Phase II Trial of Extended Indications for Resection in Small Cell Carcinoma of the Lung. John A. Meyer, Robert L. Comis, Sandra J. Ginsberg and other. J. Thorac. Cardiovasc. Surg., 1982, 83:12-19.
TEN PATIENTS with Stages I and 11 small-cell carcinoma of the lung were treated by resection which was followed in all but one patient by chemotherapy. One patient died of a pulmonary embolus; nine remained without evidence of disease seven to 69 months after resection. Of six other patients with Stage Ill-MO disease who had resection, one had a relapse at 26 months. All others remained without evidence of disease five to 25 months after the treatment was begun.
Because all tumors pass through Stage I at some time, it is possible that the systematic selection of patients on the basis of defined criteria will identify a small group of patients who have markedly improved chances for control of the disease. This group may be as many as one-half of the patients whá first present with localized MO disease. Patients who are excluded as candidates for resection should continue to receive standard nonsurgical combined method therapy.
Dov Weissberg

Results of Pulmonary Resection for Metastatic Lesions. James 0. Wright III, Berkeley Brandt III and Johann L. Ehrenhaft. J. Thorac. Cardiovasc. Surg., 1982, 83: 94-99.
PULMONARY RESECTION for metastatic lesions of the lung of 142 patients is evaluated. The mortality was 0.7 per cent. The five year survival rate was 24 per cent for those with carcinoma and 29 per cent- for those with sarcoma. The over-all survival rate, 26 per cent, was not influenced by the histologic characteristics of the tumor, the disease-free interval or the extent of pulmonary excision. No comparison is made with the groups of patients who had biopsy alone and chemotherapy.

Duvan Me/ia

Surgical Management of Pulmonary Metastases. GA. Patterson, T.RJ. Todd, T. lives and other. Can. J. Surg., 1982, 25: 102-105.

SEVENTY-EIGHT PATIENTS with pulmonary metastatic nodules were considered for surgical treatment from January 1969 to December 1978 at the Toronto General Hospital. Criteria for consideration included no evidence of residual primary tumor and no initial evidence of other metastatic foci. Primary tumors were of the kidney in 16 patients, of the colon and rectumin 15, sarcoma in 11, of the breast in ten, melanoma in five, of the uterine cervix in five and miscellaneous in 16. Diagnostic procedures included whole lung tomography, percutaneous aspiration needle biopsy and mediastinoscopy. Fourteen of the 78 patients did not undergo resection because of information gained by use of the diagnostic procedures. Sixty-six patients did undergo resection of 110 tumors: 58 had single thoracotomies, and eight had bilateral thoracotomies. There were 53 wedge resections, 52 lobectomies and two pneumonectomies.

Six patients had major complications:four had respiratory failure, one patient of these four with bleeding postoperatively, one patient had empyema and bronchopleurafistula, and one patient had sternal osteomyelitis. One patient died postoperatively. Twenty-nine of the 62 patients who were not lost to follow-up study are alive three to 15 months after resection; only six have recurrent metastatic disease.

The two year survival rate for patients with a disease-free interval of less than 12 months was 40 per cent while the two year survival rate for patients with a disease-free interval of more than 12 months was 69 per cent. Similarly, the five year survival rate for patients with a disease-free interval of less than 12 months was 20 per cent, while the five year survival rate for patients with more than a 12 month disease-free interval was 42 per cent. The survival rates for patients with multiple tumors did not differ significantly from those with single tumors. When individual tumors were considered, patients with sarcoma fared best, followed by patients' with primary tumors of the colon and rectum or the kidney. The presented data support resection of pulmonary metastases, particularly for those patients with a disease-free interval of more than 12 months.

Judith S. de Nuno

Lung Cancer in Young Persons. Louis Devaro and John R. Benfield. .J. Thorac. Card iovasc. Surg., 1982, 83: 372-376.

THIS is retrospective review of 35 patients who ranged from 22 to 40 years old and had primary carcinoma of the lung. Twelve patients who had resection of the tumor survived from four to 173 months, an average of 41.7 months. The five year survival rate of these patients was not different from that of 201 patients over 40 years old who were operated upon.

All 23 patients who were not treated operatively died within one year of diagnosis; the average length of survival was 5.6 months. This length of survival was significantly shorter than that of the control group over 40 years of age.

Among the young patients, the incidence rate of adenocarcinoma prodominated; it was 48.6 per cent. The incidence rate of small-cell carcinoma, 28.6 per cent, was also high. It is concluded that carcinoma of the lung in young persons is virulent, and diagnosis is frequently delayed. Therapy should include resection, sometimes despite advanced local disease.

Dow Weissberg

Massive Hemoptysis; Control by Transcatheter Bronchial Artery Embolization. Donald J. Magilligan, J.R., Seetaramaiah Ravipati, Pierre Zayat and other. Ann. Thorac. Surg., 1981, 32: 392-400.

SEVEN PATIENTS who had massive hernoptysis, that of more than 600 ml. in 48 hours, who were

deemed unsuitable for thoracotomy and pulmonary resection were treated with embolization of the bronchial artery. All patients were first transfused and stabilized hemodynamically. They then underwent selective bronchial arteriograms, and bleeding locations were confirmed. To avoid the complication of transverse myelitis, flush aortograms were never performed. Gelfoarn, absorbable gelatin sponge, soaked in contrast man terial was used for embolization.

The embolization of seven patients was successful. Four patients stopped bleeding immediately, and the bleeding of three ceased gradually over the next four days. Two patients died of exsanguinating bronchial hemorrhage ten days and two months after embolization respectively.

Bronchial arterial embolization appears to be an attractive method for controlling hemoptysis of patients unable to undergo a thoracotomy and resection. However, it should not be performed without strict attention to the techniques of angiography of the bronchial artery and full understanding that the method is, at best, palliative.

Giacomo A. DeLaria

The Internal Mammary Artery Graft; Its Longevity After Coronary Bypass. Alfred J. Tector, terence M. Schmahi, Bruce Janson and others. J.A.MA., 1981, 246: 2181- 2183.

IN THIS ARTICLE, a seven to nine year postoperative review of 298 patients, all of whom received one or more grafts of the internal mammary artery, is detailed to afford insight into the long term fate of the bypass conduit. Eighty-five per cent of the patients reported total or appreciable relief of angina. ‘The survival rate was 94.1 per cent for patients with normal ventricles, 90.6 per cent for those with moderate dysfunction and 85.7 per cent for those with severe dysfunction of the ventricle. There was no difference in the patency rate at zero to 24 months, 25 to 59 months and 60 to 108 months. Thus, one may speculate that the attrition rate depends upon injury during the preparation of the graft or poor anastomotic technique.

Intimal hyperplasia does not appear to occur in the internal mammary arterial graft. Many surgeons object to the internal mammary arterial graft because its preparation and anastomosis are more difficult than that of the graft of the saphenous vein, and it has less of a flow capacity. However, results of studies have shown that the flow can increase, and in one study, a flow rate that increased from 20m1./min. to 90 ml./min. nine years later was reported upon.

Therefore, it seems that the internal mammary arterial graft has good seven to nine year patency and is associated with minimal evidence of late arteriosclerosis and low attrition. Also, it appears that is has the potential to meet flow demands if meticulous technique during preparation and anastomosis is carried out. If the rue and flow of the internal mammary artery is adequate after mobilization, its use to bypass the left anterior descending or marginal artery, a dominant vessel supplying much of the ischemic myocardium, is recommended.

Petru A. Petrila

Surgical Treatment of Constrictive Fibrous Endocarditis. Charles Dubost, Claude Prigent, Alain’ Gerbaux and others. J. Thorac. Cardiovasc . Swg., 1981, 82: 585-591.

AN INTERESTING CONCEPT of endocardial excision for an entity called fibrous endocarditis is presented. Twenty patients with symptoms of progressive failure which were sometimes not distinguishable from constrictive pericarditis, Ebstein’s anomaly and cardiomyopathy are presented. However, with a combination of echocardiography cardiac catheterization and hemodynamic evaluation, the patients could be isolated.

Of the 20 patients in the study, nine had a right-sided form, five had a left-sided form, and six had biventricular involvement. Untreated, these patients progressed to cardiac cachexia and ultimately died over a period of a few months to a few years.

The procedure of total excision of the endocardium, which also involved atrioventricular valvular excision and replacement with a prosthesis, is described. Three patients died. However, surgical

treatment was offered even to patients with end stage disease; hence, the mortality was not too alarming. Twenty-six other patients from France, Switzerland, the Ivory Coast and Brazil are reported upon. According to the authors, the results were satisfactory considering that the majority of patients returned to work. The patients who were treated ranged from 12 to 58 years old. The cause is perhaps immunologic but is, as yet, uncertain. It is recommended that the possibility of this syndrome in patients with unexplained heart failure should be considered.
S.K. Gandhi

Operative Techniques in Infective Endocarditis. Jeffrey M. Lau, Gene A. Guinn, Arthur G. Beall, J.R., and others. Ann. Thorac. Surg., 1981, 32: 351-356.
THE INDICATIONS for, the operative technique and the attendant complications of surgical treatment of infective endocarditis were analyzed in 26 of 163 patients with infective endocarditis who were seen during a ten year period ending in 1979. The patients ranged from 21 to 63 .years of age, a mean age of 39 years.
The most common indication for operative intervention was congestive heart failure in 76 per cent of the patients. Other indications included systemic emboli in three patients and recurrent sepsis in two patients. In 15 patients, the site of infection was on the aortic valve; it was on the mitral valve in six and on both the aortic and mitral valves in two. The infection of three patients involved prosthetic valves. Staphylococcus aureus was isolated in ten patients, as was enterococcus in eight. Cardiac catheterization was performed upon 21 patients with no complications. Pathologic considerations which were encountered included destruction of leaflets, abscess of annular rings, formation of fistulas with ventricular and atrial perforations and myocardial abscess with heart block. Techniques were described and illustrated in detail. The operative mortality was 13 per cent. Complications included periprosthetic leaks in three patients, atrioventricular block in three patients, peripheral emboli in one patient and hemorrhage in one patient.
Judith S. Nuno

Long-Term Results Following Coronary Bypass Operation; Importance of Preoperative Factors and Complete Revascularization. Andrew J. Buda, Ian L. Macdonald, Marion J. Anderson and others. J. Thorac. Cardiovasc. Surg., 1981, 82:383-390.
ONE HUNDRED AND TWO patients who underwent aortocoronary bypass surgical treatment between 1969 and 1971 are presented. Emphasis was placed upon factor which influenced length of survival and relief of angina in relation to complete revascularization at the time of surgical treatment. It was ‘observed that, although 73 per cent of the patients were asymptomatic at the end of the year, there was a yearly attrition rate which brought the percentage down to 34 per cent at the end of nine years. The five year postoperative asymptomatic status was related to the stability of angina, previous congestive heart failure, old myocardial infarction and smoking, while survival time was related to stability of angina, previous congestive heart failure and left ventricular function.
A second important observation was the fact that increased early mortality was related to incomplete revascularization, whereas late mortality reflected progression of the native vascular disease. This article is one of few long term studies in which the probability of prolonging life is shown.
S.K. Gandhi

General Considerations in the Diagnosis and Treatment of Infective Endocarditis. Walter R. Wilson, Emiio T. Giuliani, Gordon K. Danielson and Joseph E. Geraci. Mayo Clin. Proc., 1982, 57: 8 1-85.
THE ROLE of the microbiology laboratory is more important in the management of patients with infective endocarditis than in that of patients with a other infectious disease. The physician should: establish the microbiologic diagnosis before instituting antimicrobial therapy; in urgent instances, use

an empiric antimicrobial regimen, such as a combination of penicillin G, nafdillin sodium and streptomycin or gentamicin; administer antimicrobial agents parenterally; consult a cardiac surgeon; repeat blood cultures after the onset of antimicrobial therapy; perform a physical examination daily; determine the hemodynamic status of the patient because it is the most important factor in determining the need for and the timing of cardiac valve replacement; search for a portal of entry of infection; ensure adequate nutrition; instruct the patient and the family of the patient in prophylaxis for infective endocarditis, and obtain follow-up blood cultures at one and two month intervals after completion of antimicrobial therapy.

R.Thomas McL aughlin

Surgical and Medical Experience with 734 Premature Infants with Patent Ductus Arteriosus. Michael Mikhail, Wel Lee, Warren Toews and others. J. Thorac. Cardiovasc. Suig., 1982, 83: 349-357.

THIS is a a five year analysis of the management of 734 premature infants with the diagnosis of patent ductus arteriosus. These children represent 29 per cent of the premature infants admitted to this unit. Of all children with patent ductus arteriosus, 428 were treated medically and 306, with surgical ligation. The average was 11 days at ligation. Data were evaluated in terms of severity of the respiratory distress syndrome, echocardiogram studies, period of endotracheal evaluation incidence of necrotizing colitis and further analysis of these results in babies weighing less than I .5kgm.

In the surgically treated group, the infants tended to be smaller, with 82 per cent weighing less than 1.5 kgm. as compared with 38 per cent in the medically treated group. The over-all incidence of respiratory distress syndrome was also greater in the surgical group probably because of the small size of the infants. Control material evidence of the severity of the shunt was found with the echocardiogram with a smaller La to A small ratio in the medical group as compared with the surgical group. This is as expected in that, by definition, the surgical group should have a more significant hemodynamic left to right shunt.

In terms of mortality, 11 per cent of those in the medical group and 9 per cent of those in the surgical group died. There were no intraoperative deaths and no surgically related postoperative deaths. All surgical deaths occurred in patients less than 1.5 kgm. in weight and were the result of other complications of prematurity. For those infants weighing less than 1.5 kgm., the mortality was significantly lower in the surgical group as compared with those in the medical group, 11 versus 23 per cent. In those children weighing less than 1 kgm., the mortality was 30 per cent for those in the medical group and 19 per cent for those in the surgical group.

A particularly interesting observation was that the incidence of necrotizing enterocolitis was considerably less for those in the surgical group, 1.3 per cent. Eleven per cent of the medical patients had necrotizing enterocolitis. Of those patients in the medical group who had necrotizing enterocolitis develop, 57 per cent died of a complication of the disease.

Evaluation of this experience showed that, although the infants in the surgical group were more ill with a greater incidence of respiratory distress syndrome and more premature by weight and gestational age, they had a better survival rate when compared with the infants in the medical group. Early ductus ligation is noted to reduce the duration.

All resected tumors were squamous cell carcinoma. The risk of metastasis to the lymph nodes was correlated with the depth of tumor penetration of the esophageal wall but was not correlated with the length of the tumor. The five, ten and 20 year survival rates for the 575 patients who underwent radical resection were, 28, 20 and 7 per cent respectively. The five year survival rate for the 89 patients who underwent palliative resection was 2 per cent. Patients with lesions in the lower one-third of the esophagus had higher survival rates whether or not regional lymph nodes were involved. Survival rates were lowest for patients with tumors in the upper one-third of the esophagus. Both five and ten year survival rates were considerably higher for patients with vagetative involvement of the lymph nodes

than for those with positive involvement. The authors suggest preoperative irradiation and resection despite involvement of the lymph nodes or deep penetration of the esophageal wall because even some patients who received palliative resection survived for five years.
Judith S. de Nuno

The Cellular Basis of Metastatic Bone Disease in Patients with Lung Cancer. Stewart F. Cramer, Lawrence Fried and Kimbroe J. Carter. Cancer, 1981, 48: 2649-2660.
IN THIS ARTICLE, correlation of the type of carcinoma of the lung with bony metastases was tried. Extensive studies were made of the bony metastases, and it was observed that epidermoid carcinoma showed remodeling of bone, while adenocarcinoma showed microfractures and stromal patterns consistent with the release of prostaglandins.
S.K. Gandhi