A Complication of an Implanted Electric Pacemaker
Leonard S. Dreifus, M.D.* and Joseph Uricchio, M.D., F.C.C.P.**
Philadelphia, Pennsylvania

This 56-year-old man was admitted to Hahnemann Hospital because of frequent Adams-Stokes attacks. He had experienced an acute myocardial infarction in 1958 and again in 1961. Frequent convulsions occurred in spite of administration of atropine, isoproterenol, and chlorothiazide. On January 3, 1962, an electric pacemaker was implanted on the left ventricle. The following electrocardiographic strips are presented to illustrate an unusual combination of rhythms following the implantation of an electric pacemaker and to demonstrate the absolute refractory period of the human ventricle.

1. On admission (A) sinus tachycardia was present at 140/min. The ventricles are under control of a ventricular pacemaker (30/min.). Failure of the subsidiary pacemaker engendered periods of asystole and Adams-Stokes attacks.

2. Following the insertion of the pacemaker (B) a regular ventricular response (60/min.) was present. The atria are under control of the sinus node (100/min.) while the ventricles are entirely controlled by the electrical pacemaker.

3. The following day (C) atrial flutter was present (280/min.) with a 4:1 ventricular response. The electrical pacemaker (E) is firing at (60/min.) and illustrates the mechanism of ventricular parasystole. The second and sixth beats are "fusion" complexes illustrating the competition of the electric pacemaker and the conducted impulses for control of ventricular excitation. Beats 1, 5, 9 and 10 are parasystolic premature systoles engendered by the electrical pacemaker. Since the electric pacemaker cannot be discharged by normal ventricular excitation, it continues to discharge on time, depolarizing the ven-
tricle when it finds the musculature receptive. Propagation of the electrical impulse did not occur (beats marked "E" following the third and seventh ventricular complexes) when the electrical pacemaker discharged earlier than 0.37 seconds following dominant ventricular depolarization. This interval approximates the absolute refractory period of the ventricle. Consideration of the coupling intervals in longer strips confirmed this interval as the absolute refractory period of this heart.

4. The atrial flutter required adequate digitalization to control the ventricular response. The electrical pacemaker continues to fire as a parasystolic foci protecting the patient from periods of asystole and Adams-Stokes attacks.

For reprints, please write Dr. Dreifus at 230 North Broad Street, Philadelphia.

PULMONARY LESIONS IN THE COURSE OF LUPUS ERYTHEMATOSUS

Three cases of various lesions in the respiratory system occurring in the course of lupus erythematosus are reported, viz., bilateral pleural effusion, case 1; reticulo-micro-nodular lesions with a considerable reaction in the lung hilus, case 2; reticulo-micronodular lesions localized mostly in the subpleural parts of the lungs with probable pleural reaction, case 3. In the first two cases, the lesions described were the initial manifestations of L.E. The patients were treated with prednisone combined with antimalarial drugs. In all the cases, clinical symptoms disappeared and a remission of several months' duration was obtained.


A CASE OF ASPERGILLOMA OF LUNG WITH SARCOID REACTION IN LYMPH NODES

A case is described of a man, aged 35, with a healed primary complex, aspergilloma of the lung and bilateral enlargement of hilar nodes. Right upper lobectomy was made. In the specimen, an aspergilloma and fungi in the small bronchioles and in pulmonary parenchyma were found. Six months after the operation, bronchoscopy revealed numerous colonies of *Aspergillus fumigatus* in the stump of the upper right bronchus which were the cause of repeated hemoptyses. A suture was removed bronchoscopically from the bronchial stump and a series of intrabronchial instillations of Nystatin was made. The patient recovered.


CARCINOMA OF ESOPHAGUS AND GASTRIC CARDIA

Experiences with the surgical treatment of 1039 cases of carcinoma of the esophagus and gastric cardia during a 15-year period from 1947 to 1961 inclusive, are presented briefly. The tumor was resectable in 588 cases in the series. The overall resectability rate was 56.3 per cent. Fifty-three postoperative deaths occurred among 588 resections, making a postresection mortality rate of 9.1 per cent. Respiratory infection and leakage at the anastomosis were the most frequent causes of postoperative deaths. A pronounced decline in mortality in the three successive five-year periods was noted. Sixty-five cases of esophageal carcinoma were treated by preoperative irradiation combined with surgery. The resectability rate in this group of patients was 73.8 per cent, which was 17.5 per cent higher than that of the entire series. The resectability rate of the 51 cases with carcinoma of the mid-thoracic esophagus treated by preoperative irradiation was 74.5 per cent, or 26.3 per cent higher than that of the whole series. There are 462 patients who survived the resection performed more than a year ago. The one, three, five and ten year survival rates of these patients are respectively 70.6 per cent, 31.1 per cent, 22.3 per cent and 8.4 per cent.