still patent coronary vasculature to produce subendocardial ischemia and necrosis.

Per milliliter of blood flow, the heart is man's most oxygen-hungry organ; how ironic it is that its most needy area is its least nourished.

Clifford Guy, M.D.* and Robert S. Eliot, M.D.**

*Resident in Medicine, University of Florida, Gainesville.
**Chief, Cardiology Section, Veterans Administration Hospital; Professor of Medicine, University of Florida.

REFERENCES

1 Edwards JE: Personal communication
14 Estes EH, Entman ML, Dixon HB II et al: The vascular supply of the left ventricular wall. Amer Heart J 71:58, 1966
16 Myers WW and Honig CR: Number and distribution of myocardial capillaries as determinants of myocardial oxygen tension. Amer J Physiol 207:653, 1964
20 Hirshorn S: The effect of changes in transmural pressure on the distribution of coronary flow to the left ventricular myocardium. Amer J Cardiol 23:308, 1969
21 Kirk ES, Honig CF: Nonuniform distribution of blood flow and gradients of oxygen tension within the heart. Amer J Physiol 207:661, 1964
22 Spotnitz HM, Sonnenblick EH, Spiro D: Relation of ultrastructure to function in the intact heart: sarcomere structure relative to pressure volume curves of intact left ventricles of dog and cat. Circ Res 38:49, 1966
27 Wearn JT: The extent of the capillary bed of the heart, J Exp Med 47:273, 1928

Reprint requests: Dr. Eliot, VA Hospital, Gainesville, Florida 32601.

Continued Progress in the Treatment of Histoplasmosis

Elsewhere in this issue (page 562) is found a report of the VA-Armed Forces Cooperative Mycoses Study on the treatment of histoplasmosis with amphotericin B. This study reports favorable results in 86 percent of the cases, and should serve to counteract some of the unwanted pessimism regarding the prognosis of chronic pulmonary histoplasmosis and its treatment with amphotericin.

This paper highlights the difficulties of large scale cooperative studies including the collection of adequate numbers of cases, a selection of comparable cases, and the long-term follow-up. While it might be considered surprising that 86 percent of the cases showed improvement in this chronic type of disease, it must be remembered that contrary to some other studies (as noted in reference 7) almost two-thirds of the cases in the present report were moderately advanced in contrast to two-thirds or more of the

CHEST, VOL. 58, NO. 6, DECEMBER 1970
cases being far advanced in the study quoted. Whether such a relatively favorable prognosis could be obtained had there been a greater proportion of far advanced cases remains to be seen.

The basic problem of the dosage of amphotericin B required and the ideal time sequence, whether continuous, interrupted, or intermittent, whether dosage should be controlled by simultaneous blood level studies, and many other factors remains to be determined. However, this study does add a significant diameter to the follow-up of cases of chronic histoplasmosis treated with amphotericin B.

Michael L. Furcolow, M.D., F.C.C.P.
Lexington, Kentucky

Never on Sunday

Those who are romantically inclined should right now abandon all hope for reading about the enchanting skies of the Mediterranean Sea with the charming, gay bistros of its ports, filled with an enticing atmosphere of melodic tunes, tumultuous adventures, ecstatic dialogues of the universal language of love, frivoulous priestesses of easy virtue and their self-imposed, whimsical, ephemeral code of purity. Even though the title of this writing may bring to mind once popular movie marques, actually it refers to a disease which results from the employment of hundreds of thousands of individuals in industries concerned with textile products in Europe and the Western Hemisphere. Since 1877 the term byssinosis has been applied to the condition characterized by a triad of symptoms: Cough, dyspnea and expectoration. As early as 1713 Ramazzini described asthma-like attacks in carders of hemp and flax. Patissier of France reported its occurrence in cotton workers in 1822. The nomenclature derived from the Greek _lusos_ which means cotton or flax—is augmented by a number of popular names, such as weavers' asthma, weavers' cough, Monday dyspnea, Monday feeling, Monday morning illness, Monday morning chest tightness, cotton dust disease. It is encountered in newly employed workers, as well as in those having worked in cotton mills for years, engaged in stripping, grinding, blowing, spinning and carding operations. Sensitization to cotton, hemp and flax has not been found a proved source of this condition. The incidence in carding and spinning rooms varies from 12 to 90 percent. Some claim that cigarette smokers constitute a more susceptible group. The causative agent of this disease has not been identified as yet. Its presence has been ascertained in the pericarps and bracts of the cotton plant but not in cotton fibers or seeds. This substance is capable of releasing histamine from the bronchial mucosa and consequently inducing localized edema and bronchospasm (Bouhuys, A and Lindell, S E, Experientia 17:211,1961). Spasm of smooth muscles has been induced in experimental animals by aqueous solution of dust from carding rooms. Dust levels at the latter may reach 5.8 mg m⁻³ of air. The maximum allowable concentration (MAC by International Threshold Limit Committee, 1966) in textile mills is 1 mg m⁻³. In these patients, experimental hypersensitivity to histamine aerosols is not different from that observed in subjects with chronic bronchitis without byssinosis. Massoud and Taylor (Lancet 2:607,1964) attribute the manifestations of byssinosis to immunologic changes. They found elevated titers of precipitins against components of cotton boll in the blood of workers with byssinosis. Cotton dust particles consist of cellulose (25-50 percent), protein (15-27 percent) and minerals (28-47 percent). In typical instances, asthma-like symptoms (wheezing, dyspnea, tightness in the chest) appear within few hours after return to the place of employment on Monday or first day of work-week after holidays or absence from work. The symptoms are likely to lessen or cease overnight. This peculiar episodic pattern of the disease is explained on the following basis (Bouhuys et al, Amer J Med 46:526,1969; Ann Int Med 71:257,1969): 1) sudden release of histamine from the lung tissue; 2) subsequent depletion of the lung's histamine supply; 3) replenishment of histamine depots in the lung during absence from work. Usually, there is no increase in the intensity or duration of symptoms for years. But in some instances the opposite may be true: respiratory distress may become continuous and may augment the consequent development of chronic bronchitis, emphysema and cor pulmonale. The latter may be observed in some individuals who had relinquished their jobs years before, and may be the cause of death in the sixth and seventh decades. Routine x-ray surveys in textile mills are bound to be noninformative because cotton dust is not fibrogenic. There are no x-ray findings characteristic of byssinosis but one may find evidence of chronic bronchitis and or emphysema following prolonged industrial exposure. Pulmonary function studies in these workers show considerable decrease in the one second forced expiratory volume during Monday. Also, there are increased airway resistance and functional residual lung capacity in workers exposed to this type of dust for from 10 to 30 years. As to prevention, effective exhaust ventilation is recommended at the source of dust. Workers who react to the inhalation of cotton dust with pronounced acute ventilatory impairment on their first working day should be excluded from this employment. In geographic areas outside of the sphere of Christian dominance, where religious precepts or national tradition established a day other than Sunday for worship and rest, a corresponding change prevails in the time of onset of byssinosis.

Andrew L. Banyai, M.D.