

cardiac symptoms and signs dominate the clinical picture. They reported two cases in one of which there was recurrent, prolonged, severe substernal pain with T-wave changes in the electrocardiogram consistent with a myocardial infarction. This patient recovered so that there is no definite evidence as to what part hemochromatosis played in the cardiac complication. In the second case, death from congestive heart failure occurred. Postmortem examination showed an enlarged heart weighing 400 gm., normal valves and coronary arteries and an intense, patchy siderosis of the myocardium with considerable destruction of muscle and replacement fibrosis.

In his monograph on hemochromatosis, unique in this field, Sheldon<sup>2</sup> concluded that myocardial failure was uncommon as a cause of death. However, in a review of the more recent literature, Swan and Dewar found a number of reports of cases of hemochromatosis in which there occurred symptoms followed by death in congestive heart failure. They summarized the findings in 14 of these. Among the 27 fatal cases occurring in the series of 30 patients with hemochromatosis reported by Marble and Bailey,<sup>3</sup> there were six whose death was attributed to heart failure, with or without coronary insufficiency or thrombosis. In the 15 of the 27 fatal cases in which postmortem examination was done, the heart muscle usually had a deep brown or reddish brown color. Coronary sclerosis was found in 7 of the 15 cases and at times was extreme. Microscopically, specific pigment granules were noted in the muscle fibers in 10 of 15 cases. The pigment tended to collect around the nuclei and in some the entire muscle cell was replaced by pigment granules.

Apart from the fact that voluntary and plain muscle are relatively free from involvement, the finding of large amounts of iron pigment and fibrosis in heart muscle is not surprising since it is common knowledge that in hemochromatosis there is usually widespread deposition of hemosiderin and hemofuscin throughout the body. However, it is not generally appreciated that in the occasional patient the deposition of iron pigment in the heart muscle may be so marked and

the subsequent fibrotic response so extensive that a greatly weakened myocardium may result.

Of particular interest are the following clinical features: 1) The patients affected are usually not elderly, being below 60 and often below 50 years of age; 2) Symptoms of cardiac decompensation usually progress with relative swiftness; 3) Measures commonly employed in treatment such as rest, digitalis, low sodium diet and diuretics provide at most only temporary benefit. The course is usually progressively for the worse and death may take place within several weeks or a few months after the onset of definite cardiac symptoms. Consequently, whenever a diabetic patient in the fourth to sixth decades with hepatomegaly and skin pigmentation develops rapidly progressive congestive heart failure which does not respond to treatment in the usual fashion, then hemochromatosis with unusually severe involvement of the myocardium should be suspected.

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#### **SELECTION OF THE PRIZE STUDENT ESSAY ON DIABETES**

The Editorial Board of DIABETES has been assigned the task of selecting the best paper submitted by a student or intern for the prize which will be awarded by the American Diabetes Association. It has already begun its work and will proceed with the appraisal of entries in the coming months.

As announced last summer, the prize of \$250, donated by the St. Louis Diabetes Association, will be awarded to the author of the best paper on any subject related to diabetes. It can be a report of research, a biographical or historical note, a case report, or a review. Although entries will be accepted until April 1, it is hoped that a good share of the additional manuscripts will be submitted early since this will facilitate the work of the Board.

Members of the Association are invited to bring the prize to the attention of students and interns. An interest stimulated early in a medical career may yield important dividends in the development of the field in which we are all especially interested.

<sup>1</sup> Swann, W. G. A. and Dewar, H. A.: The heart in hemochromatosis. *British Heart Journal* 14:117-129, 1952.

<sup>2</sup> Sheldon: Hemochromatosis. London, Oxford University Press, 1935.

<sup>3</sup> Marble and Bailey: (*Am. J. Med.*, 11:590-599, November, 1951.)