

Underwriting Hemochromatosis

THE CASE

STUDY FOR

THIS MONTH

By Robert Quinn, MD



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Sandra joined our Impaired Risk Underwriting Team last year with 12 years of Brokerage Underwriting experience. She is ready to put her expertise to work for you on your next substandard case.

A 38-year-old man is looking for \$300,000 of term life insurance. He was diagnosed with a mineral (iron) problem two years ago. His liver test was mildly elevated at that time. He currently undergoes blood removal (phlebotomy) three times a year. Previously he received treatment monthly. His laboratory evaluation, including liver tests, is normal. He has no complaints except for aching joints.

Hemochromatosis is a condition of iron overload. This means that too much of the mineral iron accumulates in the internal organs and the skin. This condition exists in as many as one out of every 200 people in the general population. Therefore, it is likely to be encountered in underwriting.

The underlying problem in hemochromatosis is related to the fact that too much iron from the diet is absorbed from the intestine into the blood. Due to an inherited (genetic) abnormality the intestine absorbs many times over the normal amount of iron. Since the blood has limited capacity to carry iron, the iron leaves the blood and forms deposits in the liver, pancreas, and heart (see illustration). Here the iron does harm leading to cirrhosis of the liver, diabetes due to the pancreas damage, and heart failure from damage to the heart muscle. Abnormal liver tests as in the case study are often the first clue to the diagnosis of hemochromatosis. Sometimes the tests results are only mildly elevated early in the course of the condition.

Less critical areas in the body also receive iron deposits including the skin and the joints. Iron turns the skin a bronze color and iron deposits in the joints can cause arthritis pain. Another place that iron accumulates is in the blood where it combines with a protein and forms the substance ferritin. This protein-iron combination is often measured when the diagnosis is suspected. For example, when the ferritin value is

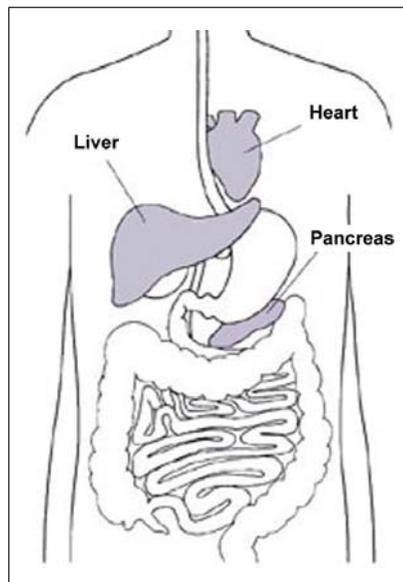
over 700 (normal is 200) the diagnosis of hemochromatosis is quite possible. An accurate diagnosis is made with a liver biopsy showing the heavy iron deposits.

Since iron is toxic in the internal organs, it can significantly limit life. Years ago, before treatment was given routinely for hemochromatosis, the average lifespan after diagnosis was less than five years. Today, treatment can stop the deposits of iron, and lifespan can normalize if damage has not already occurred.

Treatment is best accomplished by removing the excess iron from the body. This is most efficiently achieved by removing blood periodically. Since the blood is extremely rich in iron, removing a pint of blood (a phlebotomy) removes a great quantity of iron. Although the underlying problem of heavy iron absorption from the intestine cannot be stopped, the harmful effects can be prevented by phlebotomy.

This treatment usually requires removal of a pint of blood every three to four months for maintenance therapy.

In the case study, the risk would most likely be standard plus. The only mortality risk would be from discontinuing the treatment. Preferred would be possible after a longer track record (five years) showing a continued adherence to the phlebotomy treatment program.



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