

HEMOCHROMATOSIS

Overview:

Hemochromatosis is an inherited disease of excessive iron accumulation in body tissues. It is most common among the white male population with an incidence rate as high as 1 in 400 individuals. The excessive accumulation of iron in important organs, such as the pancreas, liver, and the heart lead to premature mortality if left untreated. If discovered early, hemochromatosis is typically treated with the periodic removal of blood, a process referred to as phlebotomy or venesection. Men are affected at a rate ten times greater than that of women; the monthly automatic removal of blood through the menstrual cycle in women protects most of them from the development of the disease.

Individuals with early hemochromatosis often have no symptoms and are unaware of their condition. In men, the development of symptoms, such as diabetes, heart problems, liver cirrhosis, bronze skin color, and shrinkage of the testicles are not normally noticed until many years. Initial diagnosis is often by blood testing that indicates excess iron and ferritin levels. Ferritin is a blood protein that serves as an indicator of the total amount of iron stored in body tissues. There are other conditions that can lead to high ferritin levels and thus a diagnosis of hemochromatosis is typically confirmed by liver biopsy. Recently, the less invasive method of CT or MRI scanning, perhaps in conjunction with HLA genotyping in males with a known family history of the condition, has been used to diagnose the condition instead of liver biopsy.

Once diagnosed, the goal of disease management is to eliminate any further absorption of iron by any of the affected tissues and therefore to reduce the total accumulated iron. Initially this is accomplished through an aggressive treatment of blood removal (phlebotomy), perhaps on a weekly basis. Phlebotomy, is similar to donating blood and is normally required only once every three or four months once normal iron levels are established.

Impact on Life Underwriting:

Underwriting concerns for hemochromatosis have been drastically reduced in recent years with the documented success of regular blood removal programs. Key to underwriting and individual with hemochromatosis is the extent to which body tissues have been affected prior to implementation of the treatment program, as some individual may not have been diagnosed until after permanent organ damage has taken place. For obvious reasons, permanent damage to the pancreas (which can lead to the onset of diabetes mellitus), the liver (which can lead to cirrhosis can liver cancer), and heart (leading to cardiomyopathy) are most serious.

Without permanent organ damage, if there is an established track record of good medical compliance, and if all lab. values obtained with the insurance exam come in within a normal range, standard rates are common. Ratings for permanent organ damage depend on the level of damage identified and the amount test information available showing how little impact there may be as a result (usually via biopsy or stress testing if the heart was involved). Newly diagnosed individuals, perhaps those discovered as a result of abnormal lab. studies for an insurance company exam, are normally postponed until a regular treatment program can be established and its success can be documented. SB 04/19/2001

| | Likely Underwriting Action |
|--|--|
| Newly diagnosed | Postponed until treatment program is implemented and organ involvement can be established. |
| Established treatment program with no organ involvement and normal lab. values on insurance exam. | Standard is possible although table 2 to 4 ratings are likely. |
| Abnormal liver function tests (LFTs) on insurance company exam. | Table 8 and higher is typical, depending on the level of LFTs. |
| Mild diabetes or cirrhosis of the liver. | Rate for level of the disease. |
| Cardiomyopathy, liver cancer, untreated disease. | Declined. |



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HEMOCHROMATOSIS QUESTIONNAIRE

Agent: _____ Phone: _____ Fax: _____

Proposed Insured Name: _____ M F Date of Birth: _____
 Face Amount: _____ Max. Premium: \$ _____/year UL WL Term Survivorship
 Do you currently smoke cigarettes? Y N If no, did you ever smoke: Never Quit (Date): _____
 Do you currently use any other tobacco products (e.g. cigars, pipe, snuff, nicotine patch, Nicorette gum...): Y N
 If Yes, please provide details: _____
 When did you last use any form of tobacco: _____ (Month) _____ (Year) Type used last: _____

(1) *When was the condition first diagnosed?* _____

(2) *What lead to the diagnosis of hemochromatosis?* _____

(3) *When you were first diagnosed, how many blood draws (phlebotomies, venesections) were done in what time frame?* _____

(4) *Are you now on a regular blood draw schedule? If yes, how often do you go? If no, why not?* _____

(5) *How often do you go for a health check up to your health care provider?* _____

(6) *Are your liver function tests normal? Please check with your health care provider if you do not know and list any recent abnormal levels in the following table. These values are important for us to help you get a realistic idea of premiums before completing a formal application of insurance for a specific company:*

Date of most recent test: _____ *I was told all of my liver function tests were normal.*

Test values were as follows: GGTP: _____ SGOT/AST: _____ SGPT/ALT: _____

(7) *Have there been any abnormalities or affects on other organs or tissues? If yes, please describe:* _____

(8) *Is the proposed insured aware of any medical problems? If so, please describe:*

(9) *Please list all current medications:*

| Name of Medication (Prescription or Otherwise) | Dates used | Quantity Taken | Frequency Taken |
|--|------------|----------------|-----------------|
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