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[PubMed Central](#) 1: [Mayo Clin Proc.](#) 1987 Jun;62(6):473-9.[Related Articles, Links](#)**Influence of phlebotomy treatment on abnormal hypothalamic-pituitary function in genetic hemochromatosis.**[Lufkin EG](#), [Baldus WP](#), [Bergstralh EJ](#), [Kao PC](#).

To test the hypothesis that deficiencies in hypothalamic-pituitary function in genetic hemochromatosis result from cellular injury by iron deposits, we conducted provocative tests in 11 men with genetic hemochromatosis before and after iron depletion by serial phlebotomy and in 10 control subjects. We gave combination intravenous injections of insulin (0.15 U/kg), luteinizing hormone releasing hormone (LHRH, 100 micrograms), and thyrotropin releasing hormone (400 micrograms) and then measured plasma glucose, growth hormone, corticosteroids, follicle-stimulating hormone, luteinizing hormone, prolactin, and thyroid-stimulating hormone at 30-minute intervals for 90 minutes. Phlebotomy caused a substantial decrease in median values for serum ferritin, deferoxamine-chelatable iron, and hepatic iron concentration. Before phlebotomy, stimulation by hypoglycemia and thyrotropin releasing hormone caused significantly less secretion of growth hormone ($P = 0.004$) and prolactin ($P = 0.03$) in patients than in control subjects. No significant improvement was noted, however, in growth hormone or prolactin secretion after phlebotomy. Of the 11 patients, 7 had secondary hypogonadism, and phlebotomy did not improve the serum testosterone, follicle-stimulating hormone, luteinizing hormone, or responses to LHRH in any case. Chlorpromazine injections failed to elevate serum prolactin in all patients, and administration of levodopa caused a partial reduction in serum prolactin; thus, the hypothalamus may be an important locus of endocrine malfunction in these patients. We conclude that abnormal hypothalamic-pituitary function in genetic hemochromatosis is not substantially improved by iron-depletion therapy.

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