Non-alcoholic steatohepatitis (NASH) consists of steatosis and hepatic lobular inflammation in non-alcoholic individuals. It occurs in association to obesity, hyperlipidemia, diabetes mellitus, female sex, drug therapy and jejunoileal bypass. Recently, iron overload, secondary to mutations in the HFE gene in hereditary hemochromatosis has also been evidenced in non-obese, non-diabetic male patients with NASH. This study involves patients with NASH from the outpatient clinic of Hospital das Clínicas of the University of São Paulo School of Medicine, and its objective was to define patients’ clinical, laboratory and histological profiles and search for mutations in the HFE gene, compare results for associations and review the literature. Thirty-two individuals were characterized for 14 clinical features, 12 laboratory parameters and 11 histopathological variables. The C282Y and H63D mutations in 31 of these individuals were searched using PCR-RFLP techniques, using restriction enzymes SnaBI and BclI, respectively. Age varied from 32 to 76 yrs old, with an average of 49.2 yrs. Female Sex (59%), obesity (50%), hyperlipidemia (53%) and diabetes mellitus (31%) had a lower incidence than those in the first series in the literature. Other features observed were amiodarone and prednisone use, inhalation of industrial chemical substances and extensive enterectomy. Its incidence was higher among Caucasians (72%) and Asians (12%) than the general population, contrary to other ethnic types such as Black (absent) and Mulattos (12%) which presented lower incidences. Perivenular fibrosis was present in all cases, proportional to the degree of necroinflammatory activity. Mallory’s hyalines were identified in 78% of the cases, but hepatic siderosis was identified in only 9%. Around two-thirds of the casuistic did not have abdominal complaints. Among the hepatic enzymes, ALT was the most frequently altered with the highest magnitudes and the AST/ALT ratio was <2 in all cases. The incidence of the mutations studied was similar to those found in the general population. The iron overload in peripheral blood was neither statistically correlated to the histological aggression, nor to the presence of mutations. NASH diagnosis depends on multiple features, but in the population studied, there was no association with hepatic iron overload as well as with the known mutations in the HFE gene.