

Liver Iron Overload within a UK based population by sex

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Background and Aims:

Estimates of iron-overload, the most common cause of which is haemochromatosis, have been lacking within the UK population. As iron overload is treatable with venesection and/or chelation, early identification has clear utility. Long term consequences of untreated hepatic iron overload/haemochromatosis include cirrhosis, hepatocellular cancer and heart failure. To define the epidemiology of iron overload, we studied 5353 volunteers between the ages of 40 and 73 (Mean = 61 years) as part of the UK Biobank project.

Methods:

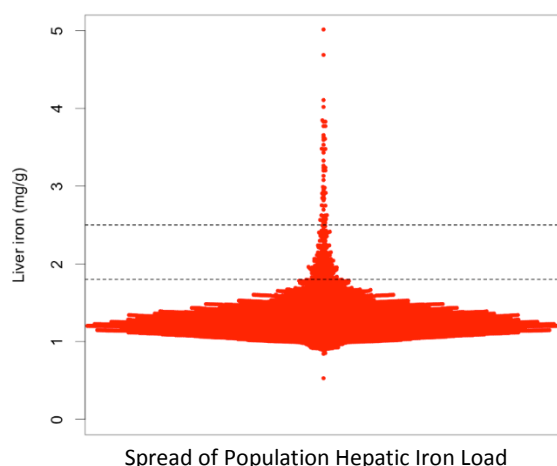
Individuals were scanned using a high-throughput abdominal MRI protocol which included the T2* Dixon method in Liver*MultiScan* to measure hepatic iron content. Results were collated, and analysed for population spread for the whole population, and then females and males separately.

Results:

The highest recorded iron load was 5.01mg/g, with the lowest 0.84mg/g. The 1st quartile was 1.15mg/g, with the 3rd quartile being 1.42mg/g. The median was 1.27mg. 261 (4.9%) had iron overload (>1.8mg/g), while 65 (1.2%) had severe iron overload (>2.5mg/g). Results by sex are shown in the table below.

Conclusion:

The prevalence of hepatic iron overload in the UK is significant. The proportion is higher amongst males, as expected due to menstrual protection. Due to the many conditions and symptoms associated with iron overload, including its role as confounder in other liver related conditions, haemochromatosis should merit more multidisciplinary research to enable early detection and preventative treatment.



	Male	Female	Total
Iron Overload	6.2%	3.6%	4.9%
Severe Iron Overload	1.6%	0.9%	1.2%

Percentage of UK population with any and with severe iron overload.

Male N = 2539

Female N = 2814

Total N = 5353