

# Pregnant women with HHC have limited access to pharmacotherapy

Magdalene Crabbe — Senior Healthcare Analyst, GlobalData

Hereditary haemochromatosis (HHC) is an iron storage disorder that can be caused by mutations in the HFE gene, which encodes human homeostatic iron regulator protein. Common symptoms of HHC are non-specific and include fatigue, malaise, bone pain and adrenal insufficiency. HHC impairs iron metabolism, which leads to the toxic accumulation of ferric and ferrous substances. If the disease remains untreated, it can result in liver cirrhosis. This increases the risk of developing hepatocellular carcinoma, which is one of the leading causes of cancer-related deaths worldwide.

One of the major challenges with identifying HHC as the source of clinical manifestations such as insulin resistance and hypogonadism is that these issues are associated with common indications such as polycystic ovarian syndrome and pituitary adenoma. Diagnosis of HHC can often be achieved through the use of magnetic resonance imaging of the liver, blood tests or a liver biopsy.

Early diagnosis of HHC is rare due to the slow onset of pathophysiological effects. However, treatments that can lessen the negative impact of excess iron on vital organs such as the heart, pancreas and kidneys include desferrioxamine mesylate, diuretics and angiotensin-converting enzyme (ACE) inhibitors.

The main non-pharmacotherapeutic treatment options for HHC are phlebotomy or dietary changes. Certain patients such as pregnant and breastfeeding women may, however, find these strategies challenging. In addition, ACE inhibitors are contraindicated during the second and third trimesters of pregnancy because of the risk of fetal renal dysplasia or the acquisition of neurological defects.

Patients with established HHC who have multiple pregnancies or who breastfeed their children may be at risk of a shortened life expectancy because of their long-term inability to treat the disease with pharmacotherapy. In addition to the potential teratogenicity of ACE inhibitors, animal studies have shown that the iron-chelating agent desferrioxamine mesylate can cause skeletal abnormalities in developing fetuses. No equivalent study has been conducted in humans and the teratogenic profile of desferrioxamine mesylate in humans is unclear. Whether or not high concentrations of the drug can be found in breast milk remains uncertain and has led to the consensus that the drug should be discontinued during pregnancy and breastfeeding in order to reduce the potential for adverse events.

Balancing the need to adequately manage a maternal disease while preserving the health of the fetus or baby is a serious problem for healthcare providers around the world. Increased innovation by pharmaceutical companies in HHC could, however, improve treatment options and improve the life expectancy of pregnant women with the disease. Developing drugs that are safe, effective and easy to administer for all patients with HHC will be a vital step toward ensuring that people from diverse backgrounds are afforded the opportunity to enjoy long, fruitful lives regardless of the presence of a progressive genetic disorder.