AGM Presentation: Guest Speaker, Professor Frank Murray

Thank you to our wonderful Guest Speaker, Professor Frank Murray, Gastroenterologist/Hepatologist, Beaumont Private Clinic and Bon Secours Hospital, Dublin who delivered an excellent presentation on Haemochromatosis.

Professor Frank Murray Presentation Summary

Hereditary Haemochromatosis

- An inherited disorder of excess iron absorption, due to deficiency of hepcidin
- Can lead to progressive iron loading of parenchymal cells in the liver, pancreas & heart
- If at fully developed stage, organ structure & function are impaired

Investigations

- Transferrin saturation; Ferritin; HFE gene; Fibroscan; Liver biopsy; T2 weighted MRI liver

Increased Serum Ferritin

- Excellent predictor of advanced fibrosis. Lacks specificity as a screening test
- Increased ferritin can be present in other conditions eg: Alcohol related liver disease, Hep C virus, NAFLD & neoplastic disease

Increased Transferrin Saturation

- Serum iron divided by the total iron-binding capacity of the available transferrin, the main protein that binds iron in the blood
- Measured as a percentage
- Increased in hereditary haemochromatosis (HH)

Disease *penetrance* in a large cross-sectional study in a racially diverse primary health care population

C282 homozygous: Elevated transferrin saturation: 84% of men and 73% of women.

Ferritin

>300 lg/L.	88% of males
>200 lg/L	57% of females

Liver Cancer

- Liver cancer if cirrhosis: 10 yr. risk: 6% men & 1.5% women
- Reduced risk with venesection
- Screened with 6 monthly ultrasound scan +/- AFP blood test in cirrhosis

Prevalence of Diabetes among HH patients

- Prevalence of diabetes among patients with HH is estimated at 13%–23%
- Hypogonadotropic hypogonadism is the most common nondiabetic endocrine disorder in HH, resulting from iron accumulation in the pituitary gland, occurs most commonly in Juvenile HH
- Arthropathy develops in patients in second and third knuckle joints, both hands and can be single/multiple joints
- Hyperpigmentation
- Fatigue
- Compromised immune system

Dietary Advice

- **Recommendations**

- Dietary modifications should not substitute for iron removal therapy.
- Iron supplementation should be avoided. Iron fortified food should be avoided where possible).
- Supplemental vitamin C should be avoided, especially before iron depletion.
- Red meat consumption should be limited.
- Alcohol intake should be restricted, during the iron depletion phase of treatment. Patients with iron overload and/or liver abnormalities should avoid or consume very little alcohol. Patients with cirrhosis should abstain from alcohol consumption.

- **Statements**

- Fruit juices and fruit, especially citrus fruits, are best consumed in moderation, and not in combination with other foods.
- Alcohol is a carcinogen and has been associated with increased risk of several malignancies, including liver cancer.
- In patients with haemochromatosis and iron overload, direct handling and consumption of raw or undercooked shellfish and wound exposition to seawater has been associated with a rare but serious systemic bacterial infection by *Vibrio vulnificus*, and other siderophilic pathogens in certain geographical regions.

Proton Pump Inhibitors (PPIs)

- PPIs could have an additional role in the treatment of selected patients to reduce the frequency of phlebotomies (by reducing stomach acid, can decrease the absorption of iron).
- May offer a way to reduce the need for phlebotomy (blood removal) in individuals with hereditary hemochromatosis (HH)
- Nonetheless, we do not recommend the routine use of PPIs as a treatment in HH
- However, if they are otherwise needed for other primary indications, they may have the benefit of reducing the frequency of phlebotomies needed

Family Screening

- First-degree relatives of patients with genetically confirmed haemochromatosis
- Genotyping should be combined with iron panel/ biochemical assessment for haemochromatosis. Homozygosity for C282Y alone is not sufficient for the diagnosis of haemochromatosis

Prognosis

- Survival/life expectancy normal for most patients
- A critical determinant of prognosis in HH is the presence of cirrhosis at the time of diagnosis
- Survival of patients with HH without cirrhosis did not differ from the general population, whereas survival of patients with HH and cirrhosis was significantly reduced
- Mortality from liver disease including HCC (Hepatocellular carcinoma) for C282Y homozygotes with ferritin of >2,000 ng/mL at diagnosis was increased compared with the general population