Medical Xpress

Study shows potential benefit of dark chocolate for liver disease patients

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Doctors could soon be prescribing a dose of dark chocolate to help patients suffering from liver cirrhosis and from dangerously high blood pressure in their abdomen, according to new research presented today at the International Liver CongressTM 2010, the Annual Meeting of the European Association for the Study of Liver in Vienna, Austria.

According to the Spanish research, eating dark chocolate reduces damage to the blood vessels of cirrhotic patients and also lowers blood pressure in the liver. Dark chocolate contains potent anti-oxidants which reduce the post-prandial (after-meal) blood pressure in the liver (or portal hypertension) associated with damaged liver blood vessels (endothelial dysfunction). The data also showed that eating dark chocolate may exert additional beneficial effects throughout the whole body. In comparison, white chocolate, which contains no beneficial 'phytochemicals', did not result in the same effects.

Professor Mark Thursz, MD FRCP, Vice Secretary of EASL and Professor of Hepatology, at Imperial College London said: "As well as advanced technologies and high science, it is important to explore the potential of alternative sources which can contribute to the overall wellbeing of a patient. This study shows a clear association between eating dark chocolate and portal hypertension and demonstrates the potential importance of improvements in the management of cirrhotic patients, to minimise the onset and impact of end stage liver disease and its associated mortality risks".

Cirrhosis is scarring of the liver as a result of long-term, continuous damage to the liver . In cirrhosis, circulation in the liver is damaged by oxidative stress and reduced antioxidant systems. After eating, blood pressure in the abdominal veins usually increases due to increased blood flow to the liver.

This is particularly dangerous and damaging to cirrhotic patients as they already have increased blood pressure in the liver (portal hypertension) and elsewhere which, if severe, can cause blood vessel rupture. Thus, eating dark chocolate may ultimately prevent this potential threat to cirrhotic patients.

In this study 21 cirrhotic patients with end stage liver disease (child score 6.9±1.8;MELD 11±4; hepatic venous pressure gradient (HPVG*)16.6±3.8mmHg) were randomised to receive a standard liquid meal. Ten patients received the liquid meal containing dark chocolate (containing 85% cocoa, 0.55g of dark chocolate/Kg of body weight) while 11 patients received the liquid meal containing white chocolate which is devoid of cocoa flavonoids (anti-oxidant properties) according to body weight. HVPG, arterial pressure and portal blood flow (PBF)** were measured at baseline and 30 minutes after meal administration, using a US-Doppler.

Both meals caused a highly significant but similar increase in portal blood flow with a +24% increase in dark chocolate compared to +34% in those patients who received white chocolate. Interestingly, post-prandial hyperaemia*** was accompanied by an increase in HVPG resulting in a statistically significant increase (17.3±3.6mmHg to 19.1±2.6mmHg, p=0.07) for those patients eating dark chocolate and those receiving white chocolate (16.0±4.7mmHg to 19.7±4.1mmHg, p=0.003). Post-prandial increase in HVPG was markedly reduced in patients receiving dark chocolate (+10.3±16.3% Vs +26.3±12.7%, p=0.02).

Notes:
*HVPG is [blood pressure](#) in the liver
**PBF refers to blood flow in the [liver](#)
***Hyperaemia refers to increase [blood](#) flow to tissues

Provided by European Association for the Study of the Liver