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This occasional section within the journal surveys visions and achievements, often not on the main track of the developing biomedical sciences, but all relating to discoveries and developments of medicinal – both ancient and modern. What they have in common, in one way or another, is providing further background and glances around the edges of the core discipline of pharmacognosy, as it has been and continues to evolve within our times.

The Ginger Compound Furandodienone Regulates A Nuclear Receptor Involved In Inflammatory Bowel Disease

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Inflammatory Bowel Disease (IBD) consists of a group of conditions, which each cause inflammation and swelling of tissues of the Gastrointestinal (GI) tract. Of these, Crohn's disease and ulcerative colitis are the most common together; these conditions afflict millions of people globally, with the most cases occurring in China and the United States of America.[1] The symptoms of IBD include abdominal pain and discomfort, diarrhoea, tiredness and lethargy, rectal bleeding and weight loss. The symptoms may manifest in varying levels of severity, IBD can be severe and can even result in life-threatening complications in some individuals. There is a need to develop safe and effective therapies to treat IBD, and recent attention has focussed on traditional therapies and plant-based remedies. *Zingiber officinale* Roscoe (family Zingiberarceae) has a long history of therapeutic use, including for the treatment of colds and influenza,[2] bacterial respiratory infections,[3] nausea, arthritis, migraines,[4] gastrointestinal infections[5] and hypertension.[6] Additionally, several preclinical and clinical studies have also investigated the ability of *Z. officinale* treatment to decrease the severity of IBD symptoms (diarrhoea, abdominal pain).[7,8] Despite those studies, the mechanism of action, and the individual components responsible for those effects are still uncertain.

A recent study published in Nature Communications[9] examined the inhibitory effects of Furanodienone (FDN), a major component of *Z. officinale* rhizomes, on Pregnane X Receptor (PXR). The authors reported that FDN binds selectively in a pocket in the PXR Ligand Binding Domain (LBD), thereby altering the receptors conformation. Furthermore, oral administration of FDN in an *in vivo* murine model inhibited PXR-dependent inflammation in the colon. These results partial verify the potential of FDN chemotherapy in the treatment of IBD, although further work is required to fully evaluate the medicinal applications and safety of FDN.

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CONFLICT OF INTEREST

The author declares that there is no conflict of interest.

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Juice from *Sambucus nigra* l. (Elderberry) Enhances Metabolic Health and May be Useful for Weight Management

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Obesity and its resultant health complications, including diabetes,[1,2] hypertension and cardiac diseases,[1,3] some cancers, kidney diseases[1] etc., are increasing rapidly in recent years. Indeed, it has been estimated that approximately 42% of adults globally currently are obese, with this figure expected to increase to approximately 55% of the adult population by 2050.[4] Whilst there are many factors contributing to the increased incidence of obesity, although the increases correlate with a global shift to the consumption of energy-rich foods and decreased physical activity. Dietary management through the inclusion of foods containing bioactive constituents and high antioxidant contents has been reported to be an effective way to manage obesity, with the mediterranean diet highlighted as being particularly beneficial.[5]

A recent study published in Nutrients reported that *Sambucus nigra* L. (Elderberry) Juice (EBJ), which is rich in anthocyanin antioxidants may be useful in weight management.6 That study used used a five-week randomised clinical trial in overweight and obese adults (without other apparent morbidities) to examine the effects of the juice. Participants were provided with either twice-daily EBJ treatments or placebos for two periods of one week (with an intervening washout period) and evaluated for several parameters of obesity (fecal microbiota, meal tolerance testing, and calorimetry). The authors reported that EBJ had significant effects on the fecal microbiota, with significantly increased levels of *aecalibacterium, Ruminococcaceae*, and *Bifidobacterium*, noted in EBJ treated individuals, with corresponding decreases in *Bacteroides* and lactic acid-producing bacteria. Additionally, significant decreases in blood glucose levels and increased fatty acid oxidation were noted in the EBJ treated volunteers. Whilst these results are promising and indicate the EBJ may be useful for weight management in obese adults, further investigations are required to confirm these trends, and to investigate the effects of longer-term EBJ treatment.

CONFLICT OF INTEREST

The author declares that there is no conflict of interest.

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