## **GASTROINTESTINAL EFFECTS OF CANCER THERAPY: ROLE FOR NUTRITION**

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Cancer therapies are diverse and have varied impacts on the gastrointestinal (GI) tract. Traditional regimens of chemotherapy and radiation have been associated with high rates of mucosal injury affecting sites including the oral cavity, pharynx, esophagus and colon. Emergence in use of small molecule and biologically-targeted agents for cancer have brought with them new GI toxicities with features of pathogenesis that are both overlapping and unique to the class. To date, the role of nutrition in cancer has been predominantly focused on supportive management of malnutrition, which is clearly associated with treatment response. GI toxicities including anorexia, nausea, diarrhea and constipation could all potentially be better managed with tailored nutritional therapy. New models have uncovered the mechanisms underpinning nutrient loss during cancer treatment and modeled ways to improve delivery, which will advance therapy options. As such, there are substantial opportunities to apply nutritional science to GI toxicity management in cancer therapy, which will be highlighted in this presentation.

# MOLECULAR MODULATION OF EDIBLE BIRD'S NEST EXTRACT ON CELLULAR REPAIR AND REGENERATION

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Edible bird's nest (EBN) has long been used by Chinese as traditional medicine since thousand years ago. Frequent consuming EBN is believed to enhance skin complexion, relieve asthma, strengthen immune system and retain youthfulness. Recent scientific data showed the functional compounds in EBN are glycoproteins or glycopeptides. For the past 15 years, various human cellular models had demonstrated the effects of EBN glycoproteins through molecular modulation. EBN glycoproteins are water-soluble and can be extracted with hot water. Direct exposure of EBN extract onto human fibroblast primary culture could evaluate its benefit to the human skin. Fibroblasts can be challenged with hydrogen peroxide as injury model or induce aging model to determine the effects of EBN extract by molecular modulation. For anti-osteoarthritis potential of EBN extract, human osteoarthritic chondrocytes were isolated from total knee replacement specimen and culture to determine the effects of EBN extract on cartilage degeneration problem. For cornea injury and parasite infection, the rabbit's corneal keratocytes and epithelial cells were cultured and challenged with acanthaemoeba to evaluate the potential of EBN extract for corneal wound repair. Lately EBN extract was identified to show mitogenic effect similar to epithelial growth factor, thus human adipose-derived stem cells culture were added with EBN extract and determine its proliferative effect and ability to maintain the stem cell multipotent potential. Besides, a cancer cell line, MCF7 was also used to evaluate the effects of EBN extract on anti-cancer potential and to understand its mechanism. There are different glycoproteins can be extracted from EBN, each has specific molecular weight and characteristics. More works need to be continue in order to understand the detail molecular interaction of EBN's glycoproteins on cellular signaling for health improvement and disease treatment.