Biochemical individuality refers to the unique nutritional needs each person has, based on their genetics, lifestyle, environmental exposures, various stressors, etc. Biochemical individuality has conventionally been defined phenotypically. Genotypic analysis allows for much more precise and sustainable determination of biochemical individuality, especially in relation to methylation. In many study results, two important methylation alleles, COMT and MTHFR, have been associated with mental disorders. The catecholamines dopamine and noradrenalin are degraded by methylation. Noradrenalin is perhaps the brain's primary sympathetic, fight or flight neurotransmitter (similar to its role peripherally). Dopamine is more related to reward, happiness, compassion and mindfulness via prefrontal cortex activation. Addressing these catecholamines in those heavily laden with methylation defects can have profound effects on treatment outcomes. Laboratory assessment of methylation status is essential for a full picture. Often, impaired methylation, elevated oxidative stress and depletion of glutathione go hand in hand. Oxidative stress and inflammation from toxins, leaky gut/food allergy, pathogens, or other causes can upregulate transsulfuration to achieve more glutathione synthesis, and consequently downregulate transmethylation. Thus those with comorbid pro-inflammatory disorders (chronic infections, toxic metals, sleep apnea, antioxidant deficiencies, etc.) and methylation defects are especially vulnerable to chronic, severe psychiatric and mental disorders. Such scientific evidence builds a case for the necessity of in-depth integrative and functional evaluations in patients experiencing significant dysfunction related to a mental disorder. The presentation will benefit those working with mental disorders who want to uncover biochemical, toxicological, immune, or genetic risk factors that may open the door to reversing the root causes, as opposed to “sealing over” symptoms. Clinicians will learn how to apply targeted clinical action plans based on assessing a patient's biochemical individuality; clinicians will have a clear understanding of methylation and mental disorders and; clinicians will have a better understanding of the application of functional testing/specialty diagnostics. At the end of this presentation, participants should be able to: Understand the concept of biochemical individuality as it relates to the clinical approach to patients with mood disorders; describe the precise relationships of hypomethylation to mental disorders and; consider the application of functional testing/specialty diagnostics to uncover the biochemical, toxicological, immune, or genetic risk factors that may be the root cause of mood disorder – and translate these into targeted clinical action plans for patients.

Biography

Charles Gant is an internationally known Author, Speaker, Educator, and Physician. He has practiced in Integrative and Functional Medicine for over three decades and more recently has incorporated Genomics. The focus of his clinical practice is defining and addressing the root causes of chronic disorders, whether they are physical or mental, and assisting patients of all ages in maximizing their genetic potential. He has found that this science-based approach can reverse the biochemical roots of aggression, depression, fatigue, mood disorders, ADD/ADHD, addiction, and mental disorders, as well as medical disorders, which brings authentic healing and recovery. He is also a Psychotherapist and teaches mindfulness-based meditation and incorporates mindfulness-based psychotherapies into his medical practice. He is active in providing basic and advanced training for clinicians, as well as educating the general public. He is currently the Director of Education and Training for The Academy of Functional Medicine and Genomics, and the Course Developer and Instructor for the Doctorate Program in Nutrigenomics at Huntington College of Health Sciences. He is also known for pioneering many successful nutritional and detoxification protocols for the treatment of substance abuse and other mental disorders. He has authored numerous publications, including ADHD Complementary and Alternative Medicine Solutions, and End Your Addiction Now, which is available in bookstores.