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The natural product, PGP-x1, its role in inhibition of P-glycoprotein and MDR-1 overexpression and its role as an adjuvant treatment of late stage solid tumors

Resistance to chemotherapy after successive dosing regimens is a common theme for cancer progression that all oncologists face. Similarly, the resistance to antimicrobial agents on infections can render similar complications especially with the broad use of antibiotics. P-glycoprotein (Pgp), also known as multidrug resistance protein 1 (MDR-1), is found on the surface membrane of both bacteria and mammalian cells, and acts to remove toxins or other harmful agents from the cell. Thus, inhibition of Pgp and MDR-1 as a treatment adjuvant is of great interest within the fields of oncology and infectious disease alike.

There are several naturally occurring agents that forego an inhibitory effect on MDR-1 and Pgp with varying amount of literature to support its claims. As attractive as these previously noted natural agents have on inhibition of MDR-1, preliminary data suggests a pattern may emerge from clinical data obtained from a natural supplement PGP-x1 utilizing a plant alkaloid. Its active constituents have led to promising research revealing data which suggest it enhances chemotherapy and antibiotic treatment via a mechanism involving the inhibition of MDR-1, Pgp and MRP-1 related transport. The data is consistent in several experimental models that show the active alkaloid has the ability to inhibit expression of Pgp in cancer cells. The active ingredient used in PGP-x1, which was utilized in the patient case studies to be discussed, utilizes a proprietary extraction methodology. Each patient in this cohort of case studies was identified to have overexpression of MDR-1 resistance. They were treated with genetically targeted chemotherapy in a metronomic dosing strategy with insulin as a biological response modifier concomitantly with PGP-x1.

Biography

Dr. Oertle is the lead physician at Envita Medical Centers where he instructs physicians, sits on the medical treatment review board, and specializes in chronic disease, immunotherapy and oncology. He actively participates in research and development alongside Vertisis Custom Pharmacy. In addition to his roles at Envita, Dr. Oertle is the director of nutrition for Bene Plates; co-founder and board member of Solidarity Health Share; and member of the Arizona Naturopathic Medical Association, International Organization of Integrative Cancer Physicians, Catholic Medical Association, National Comprehensive Cancer Network, American College for Advancement in Medicine, Association of American Physicians and Surgeons, American Naturopathic Clinical Research Institute and Naturopathic Oncology Research Institute.

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