HHS Public Access

Author manuscript

SOJ Psychol. Author manuscript; available in PMC 2019 August 22.

Published in final edited form as:

SOJ Psychol. 2018 ; 5(2): . doi:10.15226/2374-6874/5/2/00148.

Precision Behavioral Management (PBM) A Novel Approach to Combat Post-Traumatic Stress Disorder (PTSD)

Margaret A. Madigan[2], **Rajendra D. Badgaiyan**[2,4], **David Baron**[3,5], **Kenneth Blum**[1,2,4,6,*]

[1]Western University Health Sciences, Graduate School of Biomedical Sciences, Pomona, CA, USA

[2]Department of Precision Behavioral Research, Genius Health, LLC. San Antonio, TX, USA

[3]Department of Psychiatry, Icahn School of Medicine, New York, NY, USA

[4]Divisions of Neurogenetic Research & Addiction Therapy, the Florida House Experience, Deerfield Beach, Fl., USA

[5]Department of Psychology, Eotvos Loránd University, Institute of Psychology, Budapest, Hungary

[6]Divisions of Addiction Services, Dominion Diagnostics, LLC, North Kingston, RI, USA

Editorial

The genetic determinants of Post Traumatic -Stress Disorder (PTSD) are in fact the same sequence variations of polymorphic genes that support a hypodopaminergic trait (low dopamine function) that is also the mechanism of action of a list of Reward Deficiency (RDS) behaviors including Substance Use Disorder (SUD) [1,8,13]. During combat stress, dopamine is released from neurons 100 times above the resting state. This epigenetic insult added to trait hypodopaminergia is associated with increased venerability to PTSD [7]

The patented GARS is a ten gene panel of established polymorphisms or gene variations, selected from thousands of studies that associate most with the hypodopaminergic trait. The GARS; predicts risk for RDS behaviors including PTSD, by examination of the combination of reward polymorphisms [4]. Early GARS testing for risk stratification could allow for nonpharmacologic interventions. Pro-dopaminergic therapies may be used to ameliorate the hypodopaminergia and prevent the emergence of RDS behaviors like PTSD and SUD [5].

Genius Health has developed Precision Behavioral Management (PBM) which is the combination of GARS and an algorithm-driven, precise, ingredient-based dopamine regulator neuro nutrient (KB220Z). The six formulations of a pro-dopamine regulator (KB220PAM) are matched to the sequence variations specific to each patient [13]

Three independent published studies show that chronic administration of a nutraceutical KB220Z eliminated terrifying lucid nightmares in treated PTSD-ADHD patients. In at least four cases the persistent amelioration of these dreams continued for up to 12 months, after a

[*]***Corresponding author:*** Kenneth Blum, PhD, Western University Health Sciences, Graduate School of Biomedical Sciences, Pomona, CA, USA, Tel −619-890-2167; Drdgene@gmail.com.

self-initiated cessation of KB220Z [11,12,13]. These cases support increased dopamine stability as well as functional connectivity between networks as shown in fMRI studies of both rodents and humans [2, 6]. The increase in connectivity volume (recruitment of more dopamine neurons firing in the reward site of the brain) in rodents suggest the induction of epigenetic changes (neuroplastic adaptation), which may be like that involved in human lucid dreaming.

Combat soldiers with a childhood background of violence or with a familial susceptibility and increased risk for SUD [15] might benefit from the administration of PBN directed precision pro-dopamine regulation with KB220Z to effect epigenetic expression (mRNA) to overcome this deficiency and reduce the suffering and violence committed by soldiers, returning to the USA after combat who have untreated PTSD. Reducing the stigma of PTSD by embracing both genetic and epigenetic effects of traumatic stress might influence all people with PTSD to seek out treatment without fear.

References

1. Blum K, Sheridan PJ, Wood RC, Braverman ER, Chen TJ, Cull JG & Comings DE. The D2 dopamine receptor gene as a determinant of reward deficiency syndrome. J R Soc Med, 1996:89(7)396–400. [PubMed: 8774539]
2. Blum K “Reward Deficiency Syndrome” The SAGE Encyclopedia of Abnormal and Clinical Psychology. Ed. Wenzel Amy. University of Pennsylvania School of Medicine, USA: Sage Publications, Inc, 2017(4)7vols200. Print.
3. Blum K, Febo M & Badgaiyan RD. Fifty Years in the Development of a Glutaminergic-Dopaminergic Optimization Complex (KB220) to Balance Brain Reward Circuitry in Reward Deficiency Syndrome: A Pictorial. Austin Addict Sci, 2016:1(2).
4. Blum K, Chen ALC, Thanos PK, Febo M, Demetrovics Z, Dushaj K., . . . Badgaiyan RD. Genetic addiction risk score (GARS), a predictor of vulnerability to opioid dependence. Front Biosci (Elite Ed). 2018:10,175–196. [PubMed: 28930612]
5. Blum K M Febo, and Badgaiyan RD.”Fifty Years in the Development of a Glutaminergic-Dopaminergic Optimization Complex (KB220) to Balance Brain Reward Circuitry in Reward Deficiency Syndrome: A Pictorial.” Austin Addict Sci 1.2 (2016). Print.
6. Blum K, Liu et al. “rsFMRI Effects of KB220Z on Neural Pathways in Reward Circuitry of Abstinent Genotyped Heroin Addicts.” Postgrad Med 127.2(2015):232–41. Print.Doi: 10.1080/00325481.2015.994879 [PubMed: 25526228]
7. Bowirrat A et al. “Neuro-Psychopharmacogenetics and Neurological Antecedents of Posttraumatic Stress Disorder: Unlocking the Mysteries of Resilience and Vulnerability.” Curr Neuropharmacol 8.4(2010):335–58. Doi:10.2174/157015910793358123. [PubMed: 21629442]
8. Comings DE D Muhleman and Gysin R. “Dopamine D2 Receptor (Drd2) Gene and Susceptibility to Posttraumatic Stress Disorder: A Study and Replication.” Biol Psychiatry 40.5(1996):368–72. Doi: 10.1016/0006-3223(95)00519-6 [PubMed: 8874837]
9. Febo M, et al. “Dopamine Homeostasis: Brain Functional Connectivity in Reward Deficiency Syndrome.” Front Biosci (Landmark Ed) 22 (2017): 669–91. Print. [PubMed: 27814639]
10. Febo M et al. “Enhanced Functional Connectivity and Volume between Cognitive and Reward Centers of Naive Rodent Brain Produced by Pro-Dopaminergic Agent Kb220z.” PLoS One 12.4(2017)e0174774Doi: 10.1371/journal.pone.0174774 [PubMed: 28445527]
11. McLaughlin et al. “Putative Dopamine Agonist (KB220Z) Attenuates Lucid Nightmares in PTSD Patients: Role of Enhanced Brain Reward Functional Connectivity and Homeostasis Redeeming Joy.” J Behav Addict 4.2 (2015): 106–15.Doi:10.1556/2006.4.2015.008 [PubMed: 26132915]
12. McLaughlin et al.”Using the Neuroadaptagen KB200Z to Ameliorate Terrifying, Lucid Nightmares in RDS Patients: The Role of Enhanced, Brain-Reward, Functional Connectivity and

Dopaminergic Homeostasis." J Reward Defic Syndr 1.1 (2015): 24–35.Doi:10.17756/jrds.2015-006 [PubMed: 26065033]

13. McLaughlin et al. "KB220Z™ a Pro-Dopamine Regulator Associated with the Protracted, Alleviation of Terrifying Lucid Dreams. Can We Infer Neuroplasticity-Induced Changes in the Reward Circuit?" J Reward Defic Syndr Addict Sci 2.1(2016): 3–13. Doi:10.17756/jrdsas.2016-022 [PubMed: 28210713]
14. Saunders, et al. "The Prevalence of Posttraumatic Stress Disorder Symptoms among Addiction Treatment Patients with Cocaine Use Disorders." J Psychoactive Drugs 47(2015): 42–50. [PubMed: 25715071]
15. Saunders, et al. "The Prevalence of Posttraumatic Stress Disorder Symptoms among Addiction Treatment Patients with Cocaine Use Disorders." J Psychoactive Drugs 47(2015): 42–50. [PubMed: 25715071]