

## Mentha, Dracocephalum and Propolis effects on the health of Pancreas and Liver cells

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Dear Editor

*Mentha* and *Dracocephalum* members of plants in the Lamiales (1). Oils of *Mentha* Genus are most popular and widely used essential oils, because they have very important components of natural antioxidants. As well as *Mentha* extract have antioxidant and antimutagenic properties and activities, because it contains  $\alpha$ -tocopherol and Rosmarinic acid (2,3). Moreover, *Dracocephalum* have serious materials such as Luteolin, Oleic acid, Ursolic acid and Flavonoids (4,5). Luteolin, Oleic acid and Ursolic acid are members of chemicals family called Terpenoids. On the other hand, Propolis is a foodstuff and attention to it is very important and necessary because it has Caffeic Acid Phenethyl Ester (CAPE). It should be noted Propolis is a gummy admixture that honey bees produce via beeswax and mixing saliva with exudate prepared from flowers, tree buds and flower buds (6). Our goal is determination of *Mentha*, *Dracocephalum* and Propolis effects on the promotion and improvement of pancreatic and hepatic cells health.

In researches results have been suggested that Flavonoids have good efficiency of biological and pharmacological activities such as, anti-inflammatory, anti-cancer and reducer of pancreatic cancer risk as well as results from in vitro and in vivo studies have suggested that Terpenoids are candidates in the chemo-therapeutic way and chemo-preventive for liver cancer. (5,7,8). Scholars also explained that Rosmarinic acid is as a candidate for the liver fibrosis treatment and it has therapeutic role in acute pancreatitis (9,10). Also,  $\alpha$ -tocopherol has salubrious efficacy in repairing and improving hepatic pathology (11). Furthermore, CAPE is able to decrease oxidative stress and hepatic and pancreatic

injuries. It has notable ability for controlling and reduction for pancreatic cells injuries. CAPE can inhibit the development pancreatic cancer cells via Twist 2 expression downregulation (A tumor progression promoter) (12,13,14). Interestingly, according to the Holy Quran if bees via normal and natural way produce honey, this honey is a therapeutic foodstuff and also its other products are remedial materials (15).

Due to this study we conclude that *Mentha*, *Dracocephalum* and Propolis are remedial foodstuffs. They have different efficiency and effective role in promotion and improvement of pancreatic and hepatic cells function and health so more attention to these important materials in various pharmaceutical fields is necessary. Cancer and disorders of Pancreas and liver are common in the worldwide. Unfortunately, Pancreatic cancer and hepatic cancer are seventh and second most common cause of cancer deaths, respectively (16). Hence, it was recommended to usage of these foodstuffs for sublimity social health, for example alcoholism is the one of main risk factor of these cancers and disorders so people can combat to these problems via alcohol consumption deletion and usage of health promoter foodstuffs such as *Mentha*, *Dracocephalum* and Propolis.

Finally, further studies need to be conducted in this area for detection of more usefulness of *Mentha*, *Dracocephalum* and Propolis.

**Keywords:** *Mentha*, *Dracocephalum*, Propolis, Pancreas, Liver

### Conflicts of interest

Authors declare no conflict of interests.

## References

1. Kadereit JW. Flowering Plants· Dicotyledons: Lamiales (except Acanthaceae Including Avicenniaceae): Springer Science & Business Media; 2012.
2. Snoussi M, Noumi E, Trabelsi N, Flamini G, Papetti A, De Feo V. Mentha spicata Essential Oil: Chemical Composition, Antioxidant and Antibacterial Activities against Planktonic and Biofilm Cultures of Vibrio spp. Strains. *Molecules*. 2015; 20(8):14402-14424.
3. Li Q, Sun H, Xiao F, Wang X, Yang Y, Liu Y, et al. Protection against radiation-induced hematopoietic damage in bone marrow by hepatocyte growth factor gene transfer. *International journal of radiation biology*. 2014; 90(1):36-44.
4. Zeng Q, Jin HZ, Qin JJ, Fu JJ, Hu XJ, Lin JH, et al. Chemical constituents of plants from the genus Dracocephalum. *Chem Biodivers*. 2010; 7(8): 1911-29.
5. Mirsane SA, Mirsane SM. Complementary article: The effects of hydroalcoholic extract of dracocephalum kotschy on blood glucose and lipid profile in diabetic rats. *J. Fasa Univ. Med. Sci*. 2016; 6 (1) :129-130.
6. Kim HB, Yoo BS. Propolis Inhibits Neurite Outgrowth in Differentiating SH-SY5Y Human Neuroblastoma Cells. *Toxicological Research*. 2016; 32(3): 239-43.
7. Bobe G, Weinstein SJ, Albanes D, Hirvonen T, Ashby J, Taylor PR, et al. Flavonoid intake and risk of pancreatic cancer in male smokers (Finland). *Cancer Epidemiol Biomarkers Prev*. 2008; 17(3):553–562.
8. Thoppil RJ, Bishayee A. Terpenoids as potential chemopreventive and therapeutic agents in liver cancer. *World J Hepatol*. 2011; 3(9):228-249.
9. Iswandana R, Pham BT, van Haften WT, Luangmonkong T, Oosterhuis D, Mutsaers HA, et al. Organ-and species-specific biological activity of rosmarinic acid. *Toxicology in Vitro*. 2016; 32:261-268.
10. Fan YT, Yin GJ, Xiao WQ, Qiu L, Yu G, Hu YL ,et al. Rosmarinic Acid Attenuates Sodium Taurocholate-Induced Acute Pancreatitis in Rats by Inhibiting Nuclear Factor- $\kappa$ B Activation. *The American Journal of Chinese Medicine*. 2015; 43(06):1117-1135.
11. Gopal K, Gowtham M, Sachin S, Ravishankar Ram M, Shankar EM, Kamarul T. Attrition of Hepatic Damage Inflicted by Angiotensin II with  $\alpha$ -Tocopherol and  $\beta$ -Carotene in Experimental Apolipoprotein E Knock-out Mice. *Sci. Rep*. 2015; 5: 18300.
12. Alp H, Pinar N, Dokuyucu R, Sahan M, Oruc C, Kaplan I, et al. Protective Effects of Intralipid and Caffeic Acid Phenethyl Ester (CAPE) on Hepatotoxicity and Pancreatic Injury Caused by Dichlorvos in Rats. *Biochemical Genetics*. 2016:1-13.
13. Tomur A, Kanter M, Gurel A, Erboğa M. The efficiency of CAPE on retardation of hepatic fibrosis in biliary obstructed rats. *Journal of molecular histology*. 2011; 42(5):451-458.
14. Chen MJ, Shih SC, Wang HY, Lin CC, Liu CY, Wang TE, et al. Caffeic acid phenethyl ester inhibits epithelial-mesenchymal transition of human pancreatic cancer cells. *Evidence-Based Complementary and Alternative Medicine*. 2013; vol. 2013, 7 pages, Article ID 270906.
15. Holy Qur'an ; AN-NAHL (16); Verses No. 68 and 69.
16. World Cancer Report 2014. World Health Organization; 2014.