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IDENTIFICATION OF SOME ANALOGUES OF SYNTHETIC PHOSPHODIESTERASE TYPE-5 (PDE-5) INHIBITORS ILLEGALLY ADULTERATED IN NATURAL HERBAL PRODUCTS INTENDED TO BE USED FOR IMPROVE SEXUAL POTENCY FOR MEN IN KUWAIT

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It is well known that there are currently three synthetic phosphodiesterase type 5 (PDE-5) inhibitors, sildenafil citrate (brand name Viagra) (S), vardenafil hydrochloride (brand name Levitra) (V) and tadalafil (brand name Cialis) (T) that have been evaluated as an orally effective drugs for the treatment of ED since 1998. An adulteration of "natural" herbal products with at least one of the previously mentioned synthetic PDE-5 inhibitors or their structurally analogue has been reported since 2001. It is true that adulteration of natural herbal products with undeclared synthetic PDE-5 inhibitors, or their structurally analogues is a growing trend and poses a health threat to consumers. The aim of this study was directed to investigate the presence of synthetic PDE-5 analogues illegally adulterated in natural herbal products intended to be used for improve male sexual potency in Kuwait. The samples evaluated in this study consisted of a pre-market herbal product (tablet or capsules forms) which has been a subject for registration by Kuwait Drug and Food Administration (KUDFA) as natural herbal products for improving sexual performance for man in

the period from 2003 to 2012. In our laboratories identification of these analogues were done using, TLC, HPLC–PDA, HPLC–PDA%ESI(+)%MS and HPLC%PDA%ESI%(+)%MS/ MS HRMS, and NMR as analytical tools. Our results were indicated the presence of hydroxyhomosildenafil and thiosildenafil as analogous for sildenafil and aminotadalafil as analogue of tadalafil, that were adulterated in some investigated samples of herbal products. According to KUDFA rules all adulterated herbal products have been cancelled from registration and banned to be used by men in Kuwait.

Biography

Moustafa Khalifa has completed his PhD in Chemistry from Institute of Industrial Organic Chemistry, Poland Academy of Science, Warsaw, Poland, in 1982. He is a Lab Consultant for Drug and Food Quality Control Laboratories, Ministry of Health, Kuwait and has been serving as a Professor of Pesticides Chemistry and Analysis at Kafrelsheikh University, Egypt.

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