

Effect of Vitamin D on antibiotic activity on selected bacterial strains.

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Many people in the world are suffering from Vitamin D deficiency, and the number is rising daily, and as that number is rising the number of people taking Vitamin D supplements is also increasing. The current work investigated a possible interactive effect of Vitamin D with the activity of anti-bacterial drug namely ciprofloxacin. Ciprofloxacin is a broad-spectrum antimicrobial antibiotic that possess both gram-positive and gram-negative activities and it's a part of the fluoroquinolones group. The effect of vitamin D will be tested on ciprofloxacin-induced cytotoxicity against some reference bacteria. Standard bacterial strains were E.coli (ATCC 35218), S.aureus (ATCC29213), P.aeruginosa (ATCC 9027), S.epidermidis (ATCC 12228), A.baumannii (ATCC 17978), P.mirabilis (ATCC 12459), and K.pneumoniae (ATCC 13883). The antibacterial activity of ciprofloxacin, with and without Vitamin D, was examined using the disc diffusion procedure and determination of the minimum inhibitory concentration (MIC) and zones of inhibition of bacterial growth. All tested bacterial strains showed sensitivity to ciprofloxacin. When pretreated with Vitamin D alone as a control, no zones of inhibition were observed in all bacterial strains. While results showed a decrease in the Zone of inhibition with an increase in the minimum inhibitory concentration (MIC) that is required from ciprofloxacin when used together with vitamin D. In conclusion, vitamin D can affect the activity of ciprofloxacin, and higher doses of the antibiotic may be necessary to achieve the required zone of inhibition.