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Developing antibiotic resistance through the food chain

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The term antibiotic resistance is no longer an unfamiliar word to us today. Antibiotic resistance has become a lethal emerging global crisis with resistant strains being termed superbugs. While antibiotics have played an important role in extending life spans and improving the quality of life, excessive antibiotic use is one of the principal factors that impact antibiotic resistance. This includes inappropriate prescriptions from the doctors as well as unregulated consumption by the patient. Self-medication, inadequate knowledge and ease of access also lead to the arbitrary use of antibiotics, thereby resulting in antibiotic resistance. This general cause of unmonitored use has always been highlighted and awareness is constantly raised to mitigate personal antibiotic abuse. Unfortunately, the threat is not only limited to direct antibiotic abuse but rather discreetly affects the human race through the food chain. Even if we are apprehensive of the outcomes and mindful of antibiotic use ourselves, the risk remains through the food we consume. An article published in the British Journal of General Practice mentions that antibiotics are unnecessarily used to maintain hygiene in livestock and agriculture, which eventually passes to humans through food and therefore is another cause of antibiotic resistance. Another article published in the Journal of Clinical Pharmacy and Therapeutics states that one of the main causes of antibiotic resistance was excessive use and inappropriate prescription in agriculture. An approach towards precision farming could be a solution to this by using the exact required amount of antibiotics which would control antibiotic use in the agricultural sector. Additionally, antibiotics have been widely used as growth promoters in livestock to enhance their growth rate and keep them healthy. Hence, there are several ongoing research studies to develop alternative sources of growth promoters for livestock, such as biochanin A, an isoflavone from the red clover plant. However, the threat of antibiotic resistance still prevails more than ever, as antibiotic abuse in agriculture could turn out to be the silent killer and the engendering factor of superbugs despite taking enough personal precautions. Therefore, stern actions must be taken to overcome this threatening peril with the primary concern of controlling antibiotic abuse at least in the field of agriculture and therefore preventing adding to the prevalence of antibiotic resistance.

Keywords: Antibiotic resistance, Superbug, Agriculture, Food chain, Antibiotics

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