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The *In Vitro* Release Study Of Ceftazidime drug From Synthesized Strontium Flourapatite And Strontium Hydroxyapatite Coated Particles.

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ABSTRACT

Two compounds, strontium flourapatite (SrFA) and strontium hydroxyapatite (SrHA), were synthesized using wet chemical precipitation method. These compounds were characterized by Fourier transform infrared spectroscopy and X-ray diffraction techniques. The morphology and particle size for the resultant particles of the synthesized compounds were checked by scanning electron microscopy. The average particle size of strontium flourapatite was larger than that of strontium hydroxyapatite by 4.55 times. The particles of each compound were coated by trehalose sugar to decrease the possible ionic interactions with these synthesized compounds. An *in vitro* release study of ceftazidime antibiotic from the strontium flourapatite and strontium hydroxyapatite was performed in a simulated body fluid at a temperature of 37 ^{o}C. This release was studied by UV spectrophotometer at λ_{max} of 258 nm for 12 hours. The results of the release study showed that the release of ceftazidime was faster from strontium flourapatite, but it was higher from strontium hydroxyapatite. The disparity in release rapidity and level was related to the considerable difference in the average particle size for the formed particles of the two synthesized compounds.

الدراسة المختبرية لاطلاق عقار السفتازديم من جسيمات السترونتيوم فلوراباتيت والسترونتيوم هيدروكسيباتيت المصنعة و المغلفة

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