Abstract:

Green synthesis of silver nanoparticles (AgNPs) by using extracts of plants has become popular due to its simplicity, ease and numerous biomedical applications. Here we synthesized silver nanoparticles by using *Berberis lycium* root extract. The optimization of numerous parameters like concentration of *Berberis lycium* extract and silver nitrate as well as pH were standardized. The synthesis of AgNPs was done by using optimized and standardized parameters. The synthesized AgNPs characterization was done with the help of numerous spectroscopic methods such as UV-Visible spectroscopy, scanning electron microscopy, fourier transform infrared spectroscopy, x-ray diffraction analysis. The characteristic peak of AgNPs was noted at 395 nm by using UV-Vis spectroscopy. The analysis of FTIR showed the presence of ethers, alcohols, carboxylic acids and esters. The crystalline nature of AgNPs was confirmed by XRD analysis. The synthesized AgNPs were successfully applied to examine their wound healing activity in albino mice. The histology results demonstrated that the albino mice treated with AgNPs showed excellent recovery of wounds. Hence, the prepared AgNPs have good wound healing potential and can be used as effective nanomedicine for healing of wounds.