



So, herein we sought to compare the performance of AgNPs generated through biogenic routes using bacteria and plant extract for their antibacterial and antibiofilm potential against biofilm forming *Staphylococcus aureus*” Thomas et al (2017).

Abstract:

In spite of newer innovations and process improvements, catheter related infections still pose serious threat to hospitalized patients. Silver nanoparticles (AgNPs) are well demonstrated to have antibacterial properties and also have been implemented for surface fabrication of many indwelling medical devices. So, herein we sought to compare the performance of AgNPs generated through biogenic routes using bacteria and plant extract for their antibacterial and antibiofilm potential against biofilm forming *Staphylococcus aureus*. The biosynthesized AgNPs were characterized by UV- Visible spectroscopy, HR-TEM and EDS analysis. The antibacterial efficiency of the nanoparticles was detected by Disc diffusion assay, MIC and MBC analysis.

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The antibiofilm properties of the nanoparticles were also investigated. The antibacterial mode of interaction of both nanoparticles on the bacterium was analyzed by HR-TEM. Insight into

mode of interaction and mechanism of antibacterial activity of both AgNPs showed them to have promises for surface fabrication of central venous catheters. No study has been conducted so far to compare the efficiency of two different biogenic AgNPs and this highlights the novelty of the current work. Though both AgNPs were observed to exhibit comparable activity in terms of bactericidal and antibiofilm, the mode of bacterial interaction and degree of damage caused was entirely different.

Reference:

Thomas, R., Mathew, S., Nayana, A.R., Mathews, J. and Radhakrishnan, E.K. (2017) Microbially and phytofabricated AgNPs with different mode of bactericidal action were identified to have comparable potential for surface fabrication of central venous catheters to combat *Staphylococcus aureus* biofilm. *Journal of Photochemistry and Photobiology*. April 28th. .

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