

Therapeutical use of silver in chronic wounds and comparison of its different forms in dressings

Agata K Kolodziej-Macczak

Medical University of Silesia, Poland

Statement of the Problem: Silver is known for its antibacterial properties and has been used in medicine since ancient times. In last year's many researches proving its effectiveness against wide spectrum of microorganisms have been done and its role in wound healing therapies is still growing. Due to the fact that chronic wounds are huge and severe problem in human population, novel healing methods are assessed all over the world. Nevertheless, amongst all works considering use of silver dressings in medicine, there is not enough information about similarities and differences between various forms of this metal and their pharmacological mechanisms. With reference to this need, following work summarizes medical reports and previous researches about application of silver in wounds.

Method: Silver salts, Silver Sulfadiazine (SSD), nano crystalline silver, TIAB molecules and silver ions were taken into consideration. Antimicrobial effects and safety of mentioned forms were assessed as well as influence on healing time. Differences between included researches were precisely analyzed.

Findings: Treatment of infected wounds using different forms of silver is mostly satisfactory. Bacteria can hardly develop resistance against silver. SSD and silver salts application must repeated frequently during the day so novel dressings with silver ions or nanocrystals are more desirable therapeutical form but some of them have time limits. The highest risk of body accumulation is in case of nano crystalline silver and SSD.

Conclusion: On the basis of numerous researches, it can be said that active dressings including silver ions and TIAB molecules give the best results in wound therapy with little amount of side effects.

Biography

Agata K Kolodziej-Macczak has her expertise in wound healing and active dressings. She has been connected with the topic for last years while also working as a pharmacist (Master degree in Pharmacy) and studying medicine as her second faculty. Her PhD degree is in progress concerning wound healing and innovative dressings including silver, gold and various natural substances.

akm.kolodziej@gmail.com