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ANTIMICROBIAL RESISTANCE PROFILE STUDY OF CADMIUM- RESISTANT BACTERIA

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ABSTRACT

Antibiotic resistance is now reaching dangerously high levels in all regions of the world. New resistance mechanisms are emerging and spreading around the world, compromising the ability to treat common infectious diseases. For an increasing number of infections, treatment becomes more difficult, sometimes impossible, due to the loss of effectiveness of antibiotics.

This study was carried out to assess the antibiotic resistance profiles of 12 cadmium-resistant bacteria isolated from polluted cement plant soil in Algeria.. The isolates showed high resistance to cadmium was differentiated into eight genera. *Aeromonas* was the predominant (4 isolates). Followed by *Pseudomonas* (2), the others were *Burkholderia* (1), *Pasteurella* (1) *Salmonella* (1), *Shebelle* (1), *Bacillus* (1) and *Raoultella* (1). The strains were subjected to eleven antibiotics families from the clinical panel, including Aminopenicillins, Monobactams Amino sides Fluoroquinolones Glycopeptides – Carbapenems, Cephalosporins, pencils, Rifamycins, Tetracycline, Polymyxins,

Sulfamides-Trimethoprim. The majority of the characterized germs are known to cause nosocomial infections.

Results showed that all bacterial strains were resistant, at least to three different families of antibiotics tested, they are therefore considered as multiresistant. The findings of this study will provide a help design improved polluted soils treatment strategies to contain the spread of drug resistance which poses a great public health risk.

KEYWORDS: Bacteria, Environment, Pollution, Public Health, Resistant To Antibiotics, Resistance to Cadmium