

Antimicrobials, Multiple Drug Resistance & Antibiotics Resistance

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The role of Gentamicin in microbial control of donor corneal tissue

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Introduction: Gentamicin is the most effective antibiotic for the decontamination of donor eyes before enucleation and preserved corneas for transplantation, being the most used in the composition of commercial preservation media. It is important to detect trends of microbial resistance to the antibiotics of choice in most presently used corneal preservation solutions.

Objective: The objective of the present study was to analyze the susceptibility of the isolated microbiota in donor eyes for corneal transplantation to gentamicin.

Result: In relation to the antimicrobial action of gentamicin, of the 335 bacterial samples isolated, antibiotic test against gentamicin was performed in 305 samples, of which 88% (268/305) were sensitive to the antibiotic and 12% (37/305) were antibiotic-resistant. Of these, 12% of gentamicin-resistant strains, 5% were Gram-negative bacteria and 7% were Gram-positive bacteria, most of which were *Staphylococcus* Coagulase Negative (SCN).

Discussion: This sensitivity rate is still worrying, since there is no adequate antisepsis of Ocular tissues prior to preservation, microorganisms resistant to the antibiotic contained in the preservation medium may remain in the corneal tissue at the time of transplantation, resulting in a corneal receptor endophthalmitis.

Conclusion: Although some strains resistant to gentamicin have been found, the corneal preservation medium containing gentamicin as an antibiotic complements tissue decontamination procedure and provides greater safety for the preservation of corneal tissue for transplantation.

Biography

Célia Regina Malveste Ito has completed her Bachelor's degree in Biological Sciences from the Pontifical Catholic University of Goiás (2008) and a Master's degree in Health Sciences from the Federal University of Goiás in 2017, doing research in the area of Microbiology. Currently, she is a Supervisor and Technician of the Eye Bank of the Federal University of Goiás. She has experience in the field of General Biology, with emphasis on evaluation and preservation of human tissues.

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