

R1 R2 R3 PG0 PG1 Estagiário Tecnólogo PIBIC

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Service (sector)

Retina and Vitreous

Nº CEP

Chemical evaluation of different lactated ringer solutions available the Brazilian market used in ophthalmic surgeries.

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Purpose: To evaluate pH and osmolality in different lactated Ringer solutions used in ophthalmic surgeries.

Methods: Ten solutions were tested by pH determination using a pHmeter from Quimis™ Q-400M and osmolality measurement using the Advanced™ 3300 osmometer. Measures were made three times for each solution, after proper calibration of the equipment using standard solutions provided by the manufacturers.

Results: The balanced saline solutions formulated by Alcon™ and Allergan™ are compatible with acceptable pH and osmolality levels. Ringer solutions were not projected for ophthalmologic use, as they have lower pH and osmolality than intraocular fluids.

Conclusions: All products were found for ophthalmologic use, but some should be reevaluated or even restricted in the case of intraocular use in continuous irrigation procedures, due to endothelial toxicity. Hospitals, which offer these solutions, should be aware when buying ophthalmic solutions.