

Use of extracellular matrix in intestinal anastomosis and burst testing in wistar model

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Introduction: Intestinal Anastomosis is a surgical procedure that must be conducted correctly, with an optimal cicatrization, without morbidity, a rapid return to intestinal function, in order to prevent common clinical anastomosis leakage, dehiscence and adherence. Extracellular matrix is a tridimensional network that regenerates, protects and nurtures tissue. The objective of this study was to evaluate and compare the bursting strength of the intestinal anastomosis using the extracellular matrix.

Material and Methods: In 12 Wistar rats, females of 12 to 16 weeks of age with a weight of 200-400 g, were anesthetized, posteriorly a trichotomy was realized and disinfection with iodine. To the control group an entero-entero anastomosis end to end was made. To the experimental group the same procedure and extracellular matrix was infiltrated. At 7 days euthanasia was realized in a CO2 chamber, afterwards the burst strength testing was done. A T student test was made with a confidence interval of 95% and a level of significance of 0.05% in SPSS.

Results: In the control group the mean bursting pressure was 251.67 mmHg with a standard deviation of 40.702, in the experimental group the mean was 310 mmHg with a standard deviation of 10.954. with a statistical significance between both groups.

Conclusions: The use of extracellular matrix as adjuvant in the intestinal anastomosis improves significantly the resistance in the burst strength test. Which could be a good option to use in surgical anastomosis and other future studies.

Biography

Efren has completed his MD from the Autonomous University of Zacatecas and is now part of the first generation of a select group of doctors to carry out the Professional Master in Medical Consultation of Excellence by Harvard University. He has done multiple internships in general, maxillo-facial and plastic surgery in Italy and Mexico. Currently in the process of United States Medical Licensing and Homologation in Spain to continue post graduate studies and a fellowship in surgery. Recently with the pandemic he forms part of a medical network that provides distance consultation to patients in need of assistance in Mexico.