Abstract

The gastric mucosa ischemic tissular damage plays an important role in critical care patients' outcome, because it is the first damaged tissue by compensatory mechanism during shock. The aim of the study is to relate bioimpedance changes with tissular damage level generated by ischemia by means of confocal endomicroscopy and light microscopy. Bioimpedance of the gastric mucosa and confocal images were obtained from Wistar male rats during basal and ischemia conditions. They were anesthetized, and stain was applied (fluorescein and/or acriflavine). The impedance spectroscopy catheter was inserted and then confocal endomicroscopy probe. After basal measurements and biopsy, hepatic and gastric arteries clamping induced ischemia. Finally, pyloric antrum tissue was preserved in buffered formaldehyde (10%) for histology processing using light microscopy. Confocal images were equalized, binarized, and boundary defined, and infiltrations were quantified. Impedance and infiltrations increased with ischemia showing significant changes between basal and ischemia conditions ($P < 0.01$). Light microscopy analysis allows detection of general alterations in cellular and tissular integrity, confirming gastric reactance and confocal images quantification increments obtained during ischemia.

Comment [A1]: The abstract is within the 250-word journal limit. It is 173 words at present. However, note that the journal requires the abstract to be structured using the following headings: Background, Methods, Results, and Conclusions.

Please ensure the abstract is restructured to include the abovementioned headings.

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Table 1~~:~~. Impedance parameters for acriflavine ~~s~~Staining. Difference in the mean parameters by condition was analy~~s~~zed using the Student's -test. Data are presented as mean ± standard deviation (SD).

Impedance parameter	**Basal**	**Ischemia**	***P***
R_L[Ohms]	75.4 ± 1.7	91.9 ± 1.4	<0.01
R_H[Ohms]	34.3 ± 0.7	35.9 ± 0.5	0.053
X_L[-jOhms]	7.4 ± 0.5	11.5 ± 0.4	<0.01
X_H[-jOhms]	8.9 ± 0.2	18.5 ± 0.1	0.037

*Statistically significant ($P < 0.01$).

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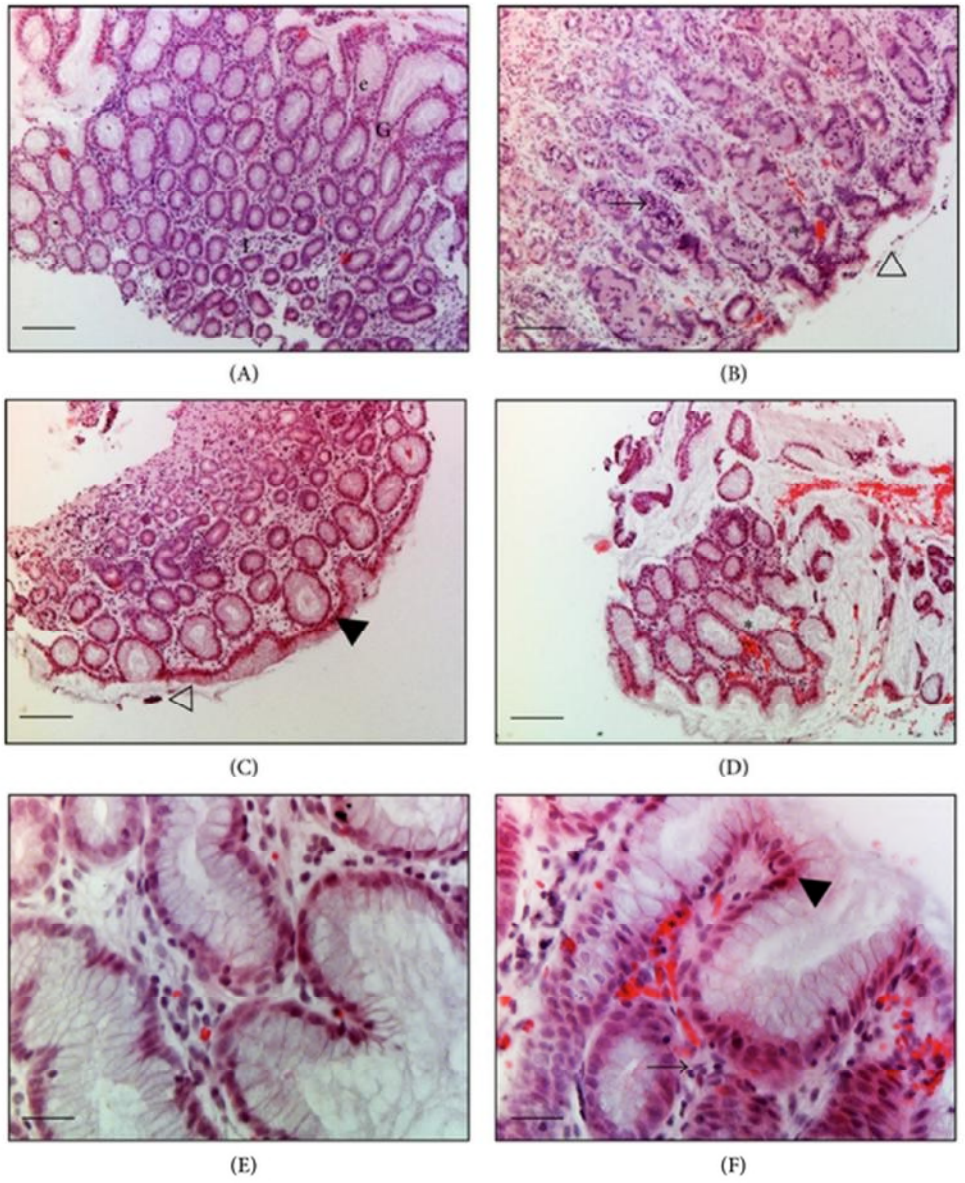

Figure 1

Comment [A1]: Note that figures should be submitted in tiff or jpeg format (eps format is also acceptable). I have shifted the figures to a separate file for now. However, please ensure that they are submitted in one of the formats mentioned above.

References

1. Gutierrez, G, Reines H, D, and Wulf-Gutierrez, M, E. (2004) "Clinical Review: Hemorrhagic Shock," Critical Care, vol. 2004;8, no. 5, :373–381.
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Comment [A1]: Note that I have verified those references that I could find online and have made changes to them based on my referencing.

Comment [A2]: I have made this change as per my referencing online.