4TH INTERNATIONAL TRANSLATIONAL MEDICINE CONGRESS OF STUDENTS AND YOUNG PHYSICIANS

BOOK OF ABSTRACTS

OSCON

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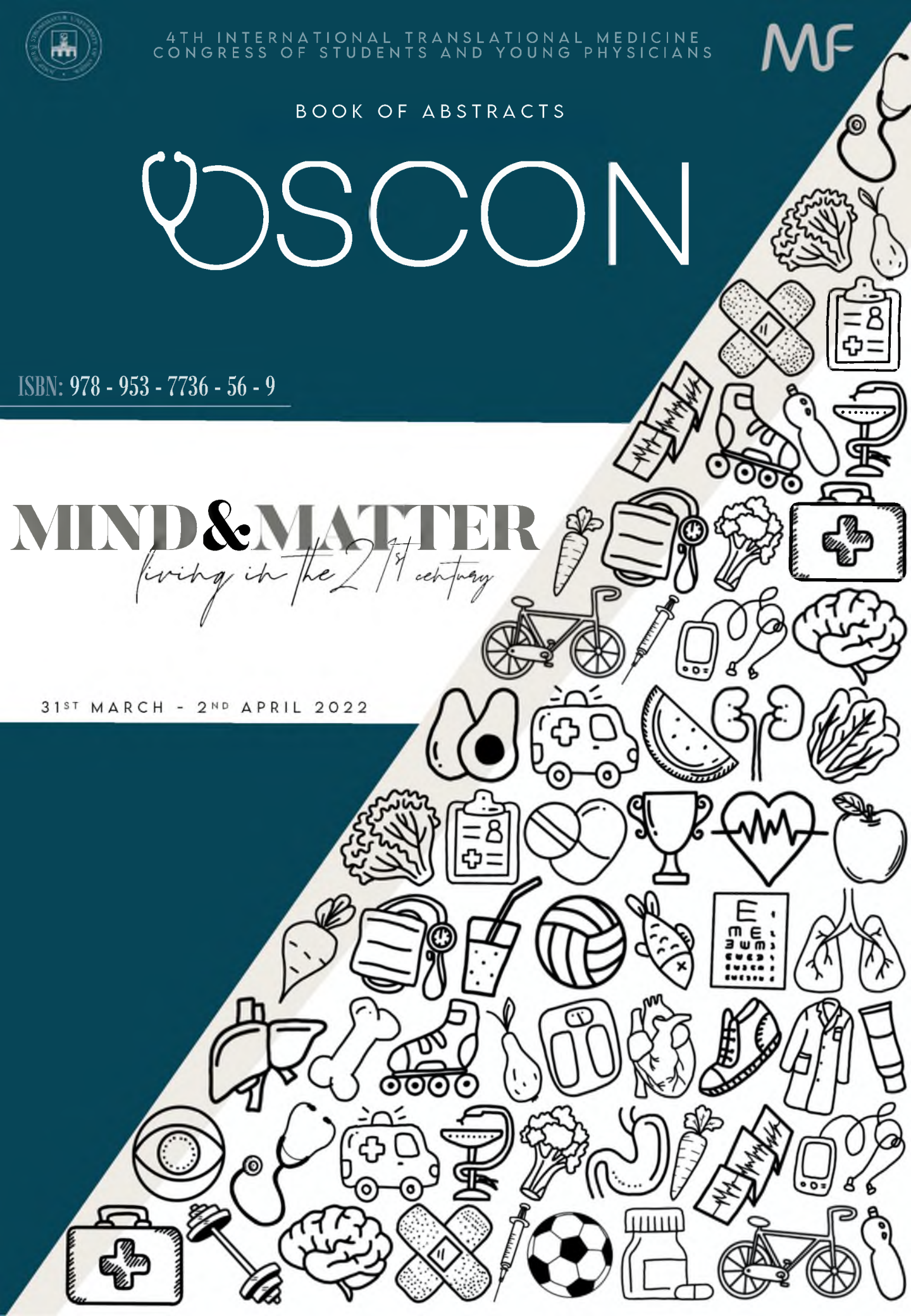

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BS07

Histological structure of the albino rat's stomach

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Introduction: In experimental medicine, rats are the most preferred experimental animals for simulating various pathological conditions. The legitimacy of extrapolating its results to humans should be preliminarily confirmed by the degree of morphological and functional identity of the studied organs.

Materials and methods: Thirty adult albino male rats weighing 200,0 ± 20,0g participated in the study. Albino rat stomach specimens fixed in 10% neutral buffered formalin solution have been studied. The study was performed using conventional histological methods to obtain serial paraffin sections 4 μm thick, stained with hematoxylin-eosin. Specimens obtained were studied on a "Konus" light microscope equipped with a Sigeta DCM-900 9.0MP digital photomicrograph accessory and Biorex 3 (serial number 5604) software suitable for these studies.

Results: A peculiar feature of the albino rat's gastric fundus mucosa is that it is covered by a relatively thick layer of stratified squamous partially keratinized epithelium, which is characteristic of surfaces exposed to mechanical action. The mucosa of the gastric/glandular part homologous to humans differs from it by the high density of tubular glands, in which all necessary exocrine cells are located in the walls of the tubular glands, which provide the enzymatic digestion process in an acidic medium.

Conclusion: The albino rat fundus is designed to act as a special mixer for the food bolus and move it to the glandular part of the stomach. The histological structure of the gastric mucosa shows that only the pyloric and gastric/glandular parts are homologous to the human stomach.

Keywords: albino rats, stomach"

BS08

The Antimicrobial Susceptibility Profile of Staphylococcus aureus Clinical isolates at University Hospital Center Osijek

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Introduction: *Staphylococcus aureus* is considered to be a significant agent of skin and soft tissue infections. Blood stream infections and meningitis caused by *S. aureus* mostly appear due to surgical procedures and use of intravenous catheters. Our goal was to determine antibiotic susceptibility of *S. aureus* isolates from cerebrospinal fluid (CSF) and blood from 18.05.2020. to 31.12.2021. at University Hospital Center Osijek.

Materials and methods: MALDI-TOF was used for identification purposes. The antibiotic susceptibility of isolated bacteria was determined with standard disk diffusion method and gradient minimal inhibitory concentration (MIC) on Muller-Hinton agar. The results were interpreted according to EUCAST guidelines. The susceptibility was determined for penicillin, cloxacillin (cefoxitin), erythromycin, clindamycin, trimethoprim-sulfamethoxazole, rifampicin, gentamicin, linezolid, vancomycin, teicoplanin, moxifloxacin, tetracycline and tigecycline.

Results: During this research, we examined antibiotic susceptibility of 69 isolates from which 2 were detected in CSF and the 67 in blood culture. Isolates from CSF showed sensitivity to all previously mentioned antibiotics (except penicillin). Almost half of the isolates detected in blood were resistant to cloxacillin. Susceptibility to erythromycin (47%), clindamycin (52%), trimethoprim-sulfamethoxazole (98%), rifampicin (97%), gentamicin (81%), tigecycline (98%) was also detected. They all showed sensitivity to linezolid, vancomycin and teicoplanin. The isolates from intensive care unit with COVID-19 positive patients were the most dominant (38%), followed by internal medicine (23%) and infectology unit (12%). Conclusion: The most common bacteria type that has been isolated from primary sterile samples is *Staphylococcus aureus*. Usual drugs of choice are antibiotics like linezolid, vancomycin and teicoplanin. To stop antibiotic overuse and spreading of bacterial resistance, antimicrobial stewardship should be followed.

Keywords: *Staphylococcus aureus*, antibiotics, susceptibility