Editorial

# Implementing change is a science

No abstract available

# Position statement on the use of albumin in liver cirrhosis

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## Abstract

Cirrhosis is characterised by a prolonged asymptomatic period in which the inflammation persists, increasing as the disease progresses. Characteristic of this is the increase in pro-inflammatory cytokines and pro-oxidant molecules which are determining factors in the development of multiple organ dysfunction. In the early development of cirrhosis, splanchnic arterial vasodilation, activation of vasoconstrictor systems (renin-angiotensin-aldosterone) and the sympathetic nervous system (noradrenaline) bring about bacterial translocation and systemic dissemination via portal circulation of bacterial products, and molecular patterns associated with damage, which exacerbate the systemic inflammation present in the patient with cirrhosis. Albumin is a molecule that undergoes structural and functional changes as liver damage progresses, affecting its antioxidant, immunomodulatory, oncotic and endothelial stabilising properties. Our knowledge of the properties of albumin reveals a molecule with multiple treatment options in patients with cirrhosis, from the compensated then decompensated phases to multiple organ dysfunction. Its recognised uses in spontaneous bacterial peritonitis, post-paracentesis circulatory dysfunction, acute kidney injury and hepatorenal syndrome are fully validated, and a treatment option has opened up in decompensated cirrhosis and in acute-on-chronic liver disease.

**Keywords:**Acute-on-chronic liver failure; Albumin; Hepatorenal syndrome; Hyponatremia; Liver cirrhosis; Paracentesis; Spontaneous bacterial peritonitis.

Review

# Probiotics: Protecting Our Health from the Gut

## Abstract

The gut microbiota (GM) comprises billions of microorganisms in the human gastrointestinal tract. This microbial community exerts numerous physiological functions. Prominent among these functions is the effect on host immunity through the uptake of nutrients that strengthen intestinal cells and cells involved in the immune response. The physiological functions of the GM are not limited to the gut, but bidirectional interactions between the gut microbiota and various extraintestinal organs have been identified. These interactions have been termed interorganic axes by several authors, among which the gut-brain, gut-skin, gut-lung, gut-heart, and gut-metabolism axes stand out. It has been shown that an organism is healthy or in homeostasis when the GM is in balance. However, altered GM or dysbiosis represents a critical factor in the pathogenesis of many local and systemic diseases. Therefore, probiotics intervene in this context, which, according to various published studies, allows balance to be maintained in the GM, leading to an individual's good health.

**Keywords:**dysbiosis; intestinal microbiota; microbiota–gut–brain axis; microbiota–gut–heart axis; microbiota–gut–lung axis; microbiota–gut–skin axis; microbiota–metabolism; probiotics and postbiotics.

# Treatment of melasma with platelet-rich plasma: A self-controlled clinical trial

## Abstract

Melasma is a common circumscribed hypermelanosis of sun-exposed areas of the skin. Platelet-Rich Plasma therapy has been evidenced to inhibit melanin synthesis in animals and humans. To determine the effectiveness of platelet-rich plasma as a treatment for melasma. Twenty female patient with melasma were involved in this study. The intervention included three Platelet-Rich Plasma application sessions at 15-day intervals. Patients were evaluated before and after treatment. Variables measured included the facial melanin concentration using the melasma area and severity index score, melasma quality of life scale satisfaction grade, and histologic changes. Mean age was 41 ± 7 years. An initial MELASQOL score of 42 ± 14.8 and final score of 16.6 ± 7.2 (p = 0.008) were reported; the initial and final MASI score were 15.5 ± 8.4 and 9.5 ± 7.2 (p = 0.001), respectively. The dermatoscopy examination revealed a decrease in pigmentation after intervention (p = 0.001). Histopathologic improvement was detected in reductions in cutaneous atrophy (14 [70%] vs. 11 [55%]), solar elastosis (15 [75%] vs.11 [55%]), and inflammatory infiltrate (9 [45%] vs. 6 [30%]), before and after treatment, respectively. The intervention was associated with decreased intensity of the melasma patch and improved skin quality, shown by the MELASQOL and MASI scores.

**Keywords:**Melasma; platelet-rich plasma.

Multicenter Study

# Yerbamate Tea Consumption: A Protective Factor in Parkinson Disease

## Abstract

**Introduction:**Little is known about the association between Yerbamate (YMT) tea consumption and Parkinson disease (PD). We determined whether there was an association between YMT tea consumption and PD.

**Methods:**We conducted a multicenter case-control study in 3 countries (Argentina, Paraguay, and Uruguay). We applied a structured questionnaire about YMT tea consumption history. The survey also included information about factors previously associated with a decreased and increased risk of PD, apart from medical and demographic factors. Odds ratios and 95% confidence intervals were calculated using multivariate unconditional binary logistic regression analysis.

**Results:**We included 215 cases and 219 controls. The mean age of the cases was 65.6 ± 10.5 years and that of controls was 63.1 ± 10.5 years (P < 0.02). Years of YMT tea consumption, number of liters drunk per day, and amount of YMT used for preparing the infusion were similar between cases and controls (P > 0.05), but not the number of times the YMT was added into the container (P = 0.003) and the YMT tea concentration per serving (P = 0.02). The multivariate analysis showed that YMT tea concentration per serving lowered the risk for PD, independent of potential confounders (odds ratio, 0.62; 95% confidence interval, 0.47-0.84).

**Conclusions:**This multicenter study highlights the association between an environmental factor, the YMT tea drinking, and PD. Although more evidence from longitudinal studies is needed, the results obtained here points toward a protective effect of the YMT tea concentration per serving on PD.

Surg Endosc. 2022 Jul 19. doi: 10.1007/s00464-022-09438-w. Online ahead of print.

# Use of virtual platform for delivery of simulation-based laparoscopic training curriculum in LMICs

## Abstract

**Background:**Laparoscopic surgery is rapidly expanding in low-and middle-income countries (LMICs), yet many surgeons in LMICs have limited formal training in laparoscopy. In 2017, the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) implemented Global Laparoscopic Advancement Program (GLAP), an in-person simulation-based laparoscopic training curriculum for surgeons in LMICs. In light of COVID-19, SAGES adapted GLAP to a virtual format with telesimulation. This study explores the feasibility and efficacy of virtual laparoscopic simulation training in resource-limited settings.

**Methods:**Participants from San Jose, Costa Rica, Leon, México, and Guadalajara, México enrolled in the virtual GLAP curriculum, meeting biweekly for 2-h didactic classes and 2-h hands-on live simulation practice. Surgical residents' laparoscopic skills were evaluated using the five Fundamentals of Laparoscopic Surgery (FLS) tasks during the initial and final weeks of the program. Participants also completed pre-and post-program surveys assessing their perception of simulation-based training.

**Results:**The study cohort consisted of 16 surgical attendings and 20 general surgery residents. A minimum 70% response rate was recorded across all surveys in the study. By the end of GLAP, residents completed all five tasks of the FLS exam within less time relative to their performance at the beginning of the training program (p < 0.05). Respondents (100%) reported that the program was a good use of their time and that education via telesimulation was easily reproduced. Participants indicated that the practice sessions, guidance, and feedback offered by mentors were their favorite elements of the training.

**Conclusion:**A virtual simulation-based curriculum can be an effective strategy for laparoscopic skills training. Participants demonstrated an improvement in laparoscopic skills, and they appreciated the mentorship and opportunity to practice laparoscopic skills. Future programs can expand on using a virtual platform as a low-cost, effective strategy for providing laparoscopic skills training to surgeons in LMICs.

**Keywords:**Global surgery; Laparoscopic surgery; Low-and middle-income countries; Simulation-based learning; Telementoring; Teleproctoring.

A case–control study of infections caused by *Klebsiella pneumoniae* producing New Delhi metallo-beta-lactamase-1: Predictors and outcomes

**Introduction:** Infections caused by antimicrobial-resistant bacteria are a significant cause of death worldwide, and carbapenemase-producing bacteria are the principal agents. New Delhi metallo-beta-lactamase-1 producing *Klebsiella pneumoniae* (KP-NDM-1) is an extensively drug-resistant bacterium that has been previously reported in Mexico. Our aim was to conduct a case–control study to describe the risk factors associated with nosocomial infections caused by *K. pneumoniae* producing NDM-1 in a tertiary-care hospital in Mexico.

**Methods:** A retrospective case–control study with patients hospitalized from January 2012 to February 2018 at the Hospital Civil de Guadalajara “Fray Antonio Alcalde” was designed. During this period, 139 patients with a culture that was positive for *K. pneumoniae* NDM-1 (cases) and 486 patients hospitalized in the same department and on the same date as the cases (controls) were included. Data were analyzed using SPSS v. 24, and logistic regression analysis was conducted to calculate the risk factors for KP-NDM-1 infection.

**Results:** One hundred and thirty-nine case patients with a KP-NDM-1 isolate and 486 control patients were analyzed. In the case group, acute renal failure was a significant comorbidity, hospitalization days were extended, and significantly more deaths occurred. In a multivariate analysis of risk factors, the independent variables included the previous use of antibiotics (odds ratio, OR = 12.252), the use of a urinary catheter (OR = 5.985), the use of a central venous catheter (OR = 5.518), the use of mechanical ventilation (OR = 3.459), and the length of intensive care unit (ICU) stay (OR = 2.334) as predictors of infection with NDM-1 *K. pneumoniae.*

**Conclusion:** In this study, the previous use of antibiotics, the use of a urinary catheter, the use of a central venous catheter, the use of mechanical ventilation, and ICU stay were shown to be predictors of infection with NDM-1 *K. pneumoniae* and were independent risk factors for infection with NDM-1 *K. pneumoniae.*

Editorial

# Clues to decipher the origin of severe acute hepatitis in children: a new enigma during the COVID-19 pandemic

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