

INTESTINAL MICROBIOTA ALTERATIONS AND TREATMENT APPROACHES AFTER A SEVERE BURN

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Introduction. Severe burns have a high death rate, infection, and multiple organ failure as serious side effects. This pathogenic process significantly relies on the gut microbiome, the largest microbial resource in the individual's body.

Aim of the study. This study describes changes in gut flora and the function of the intestinal mucosal barrier after severe burns. Additionally, the potential and challenges of microbial therapy were highlighted.

Materials and methods. This systematic review was created using data from several research publications.

Results and discussion. The gut flora frequently changes dramatically after a severe burn. These included opportunistic pathogens like *Escherichia coli* and enterococci, which significantly rose in frequency, and obligatory anaerobes and *Bifidobacterium*, which gradually declined. After treatment, there was a change in the gut microbiota. Most opportunistic infections thus decreased and finally stabilised. As beneficial bacteria continued to grow. While potentially dangerous bacteria proliferated during the early stages of burn, gut dysbiosis increased and certain probiotic species, like as butyrate-producing bacteria, may have decreased. According to research, Proteobacteria were prevalent in the early post-burn stage, mostly in conjunction with a decrease in Firmicutes/Bacteroidetes and an increase in *Escherichia* and *Shigella* species. *Bifidobacterium* is one type of intestinal probiotic that has been studied in the past; it is known to promote gastrointestinal health and reduce symptoms such as intestinal stress syndrome and diarrhoea brought on by antibiotics. Patients with severe burns had significantly decreased levels of *Bifidobacterium*, one of the essential bacteria that make SCFAs, in their digestive tracts. Apart from *Bifidobacterium*, butyrate-producing bacteria have been said to have unique therapeutic potential. A new study suggests that oral administration of the butyrate-producing bacteria *Clostridium butyricum* may increase intestinal permeability, decrease intestinal damage, lower TNF- α and IL-6 expression, and raise intestinal butyrate levels in burnt mice. Gastrointestinal bacteria and endotoxins can quickly cross the intestinal barrier and travel to distant organs such the liver, lungs, and spleen due to increased intestinal permeability. They may even reach the bloodstream via the portal vein or lymphatic system. The main treatment approaches for modifying gut microbiota are as follows: Early nutritional support treatment in a condition of

hypermetabolism. Antibiotics and antifungal medications can reduce the overall microbial load. To control the type and activity of the gut microbiota and faecal microflora transplantation (FMT), use dietary management or the addition of live bacteria.

Conclusion. After severe burn injuries, infections are now the leading cause of mortality. Therefore, in burn patients with multidrug-resistant flora, empirical antibiotic therapy is required. It is anticipated that probiotics and FMT would prove to be effective therapies for intestinal changes in patients with severe burns according to their favourable results in a number of intestinal inflammatory diseases.

ЛИТЕРАТУРА

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STRATEGIES FOR CANCER CONTROL IN SRILANKA. PREVENTION INITIATIVES

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Introduction. In Sri Lanka, the most commonly diagnosed cancers include breast, cervical, oral, lung, and colorectal cancers. In 2022, the country reported a total of 33,243 new cancer cases, resulting in an age-standardised incidence rate of 106.9 per 100,000 individuals [1].

Aim of the study. To study cancer prevention measures in Sri Lanka.

Materials and methods. Study of regulatory documents.

Results and discussion. Globally set targets by 2025 in Sri Lanka: A 25% reduction in premature mortality from cancer; a 10% relative reduction in the use of alcohol; a 10% relative reduction in the prevalence of insufficient physical activity; a 30% relative reduction in mean population intake of salt /sodium; a 30% relative reduction in prevalence of current tobacco use in persons aged over 15 years. An 80% availability of affordable basic technologies and essential medicines including generics, required to treat major non communicable diseases in both public and private facilities. The Cancer Early Detection Centre, operated under the National Cancer Control Programme of the Ministry of Health, has established a successful public-private