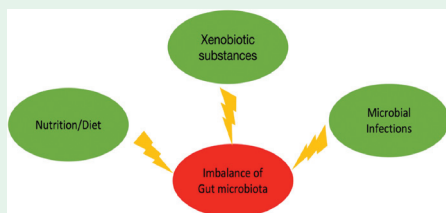


REVIEW ARTICLE

Effect of gut microbiota on colorectal cancer progression and treatment



Imbalance of gut microbiota via diet, infections, nutrition, and xenobiotic.

Alasiri discusses an in depth role of gut microbiota and its functions to explore the link between development of colorectal cancer (CRC) in patients and their responses to treatment. Several studies have shown that gut microbiota can induce resistance against pathogens and regulate the immune system. Colorectal cancer is the third-deadliest cancer worldwide, accounting for approximately 900,000 deaths per year globally. Gut microbiota has been heavily linked to CRC incidence and prevention via bacterial metabolites, invasion, translocation, host's defense modulations, and bacterial-immune system interactions. In addition, it can influence the metabolism of chemical compounds such as drugs and xenobiotics to manipulate the treatment response in CRC patients.

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ORIGINAL ARTICLES

Investigation of preoxygenation methods in cesarean surgeries with the oxygen reserve index

Kocakulak et al investigate preoxygenation methods that were carried out for 3 minutes (min) at tidal volume and 30 seconds (s) with the 4 deep vital capacity technique using the Oxygen Reserve Index (ORI) among pregnant women. The patients were randomly divided into 2 groups with the provision of preoxygenation using 100% O₂ at a rate of 10 L.min⁻¹ for 3 min at normal tidal volume (Group 1) and 30 s with the 4 deep vital capacity technique (Group 2). The study was completed with 66 patients. Fraction of inspired oxygen (FiO₂) values were found to be low in T1 ($p=0.012$) in Group 1, and high in fraction of expired (FeO₂) values in T1 and T2 ($p=0.025$ and $p=0.009$) in Group 2, while no significant differences were found at other times ($p>0.05$). We obtained greater FiO₂ and FeO₂ values in preoxygenation with the 30 s 4 deep vital capacity method, and because this method did not cause a significant decrease in the post-intubation ORI values, we believe that the usage of this method in cesarean section surgeries may be appropriate.

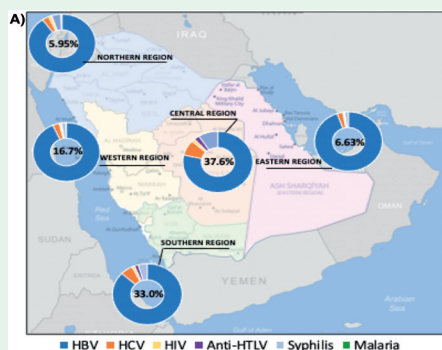
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The role of laparoscopy in emergency colorectal surgery

Alselaime et al assess the outcomes of the laparoscopic approach compared to those of the open approach in emergency colorectal surgery 241 patients (182 open resections, 59 laparoscopic approaches) were included in this study. The length of stay in the intensive care unit was shorter in the laparoscopic than in the open group (1 ± 3 days versus 7 ± 16 days). After multivariable logistic regression, patients undergoing laparoscopic resection had a 70% lower risk of surgical site infection than those undergoing open surgery (adjusted odds ratio=0.33, 95% confidence interval: [0.06-1.67]), a difference that was not significant. The use of laparoscopy in emergency colorectal surgery is safe and feasible, with a trend toward better outcomes. Colorectal surgery specialization is an independent predictor of an increased likelihood of undergoing laparoscopy in emergency colorectal surgery.

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Prevalence of transfusion-transmitted infections in Saudi Arabia blood donors. A nationwide, cross-sectional study



Map of Saudi Arabia demonstrating the prevalence of transfusion-transmittable infection-positive markers to total confirmed cases in each geographical area.

Alsughayyir et al establish a nationwide epidemiological profile of transfusion-transmittable infection (TTI) markers among seemingly healthy blood donors to update policies required to ensure blood safety. A total of 375,218 whole blood units were donated. Notably, the central and southern regions were the epicenters of TTI-reactive blood donors. Hepatitis B virus (HBV) markers accounted for 85.7% and were the overall most prevalent of TTI-positive donations, followed by hepatitis C virus (HCV) at 5.9% and syphilis at 5.6%. In particular, anti-HBc and hepatitis B surface antigen (HBsAg) were most prevalent in the south, while HBV NAT was highest in the center. Hepatitis B virus, HCV, and syphilis carry the greatest risk of TTI in Saudi Arabia. Including HBsAg screening is a necessary precautionary measure to maintain blood safety.

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