
Original Article

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Clinical Outcomes of Peritoneal Dialysis in Children with Acute Kidney Injury Following Congenital Heart Defect Repair

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Abstract

Acute renal failure (ARF), according to a number of authors, is observed in 3-5% of children undergoing heart surgery. Prolonged artificial circulation, a decrease in perfusion rates in some cases, and unstable hemodynamics in the intraoperative and/or postoperative period often cause a decrease in glomerular blood flow (normally 25% of the CBV), which leads to a decrease in glomerular filtration and impaired tubular function and, ultimately, to acute renal failure. The principles of treating ARF are based on restoring renal function, temporarily replacing the impaired organ function, and symptomatic therapy. Pathogenetic treatment should be aimed at improving glomerular blood flow and filtration. This can be achieved by achieving adequate circulating blood volume and renal perfusion through the use of diuretics, inotropic drugs, and correct infusion therapy. The PD method is based on the diffusional mass transfer of predominantly low-molecular and, to a lesser extent, medium-molecular substances from the blood into the dialysate through the peritoneum, which functions as a semipermeable membrane. The effectiveness of the method depends on the volume and residence time of the dialysate in the abdominal cavity. One significant drawback is its limited effectiveness in patients with high body weight, high catabolism, and infectious complications. However, in newborns and infants, who have a relatively large peritoneal surface area compared to adults and in patients with isolated acute renal failure, PD is preferable. Purpose of the study is to determine the clinical effectiveness of peritoneal dialysis as a method of continuous renal replacement therapy in children with acute renal failure after correction of congenital heart defects.

Keywords: Congenital Heart Defect, Repair, Acute renal failure, Peritoneal dialysis (PD),

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Pathological Spectrum of Infertility: Clinical Insights

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Abstract

Infertility is a problem that affects both partners, not just women or men, and both partners must be healthy to achieve pregnancy. The evaluation of infertility in couples should be conducted systematically, considering all necessary factors and resources, to identify any underlying issues. Therefore, a specific diagnostic protocol must be followed. Currently, the laparoscopic method is unanimously accepted as essential for evaluating infertility in couples and is generally performed based on clinical suspicion. This is one of the most advanced and widely used surgical and technological techniques. This study will focus on visualizing the pelvic cavity to assess the findings obtained through laparoscopy and determine which are most frequent in the population of this hospital compared to the literature.

This was a cross-sectional, descriptive, and retrospective study was conducted on patients who underwent laparoscopic surgery were selected, in which the findings were evaluated, with the aim of establishing the causes and therapeutic alternatives aimed at conception. This research clinically and statistically approved the usefulness of diagnostic laparoscopy in the study of infertile women that allowed for the selection of patients for surgical procedures, thereby increasing the chance of success and, incidentally, reducing unnecessary hospitalization and anesthetic costs. The procedure proved to be very safe in experienced hands, as demonstrated by the zero percentage of complications in these patients.

Keywords: Diagnostic laparoscopy, Infertility, Outcomes

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Early Complications Post Laparoscopic Sleeve Gastrectomy

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Abstract

Background: Obesity, defined as a body mass index (BMI) $\geq 30 \text{ kg/m}^2$, is a chronic illness identified in children, adolescents, and adults worldwide. Bariatric surgery has been recognized as the most effective long term treatment modality for severe obesity. Among various bariatric procedures, laparoscopic sleeve gastrectomy (LSG) has rapidly gained popularity to become most frequently performed worldwide. LSG entails resecting the greater curvature and fundus of the stomach; the partial gastrectomy is oriented vertically, parallel to the lesser curvature of the stomach.

Aim of the study: To evaluate the early complications post LSG.

Patients and method: Prospective cohort study carried on 2560 obese patients, between first of January, 2016, and 31 December, 2019, underwent bariatric surgery by the same surgeon and same surgical team at Baghdad Teaching Hospital, Diglah Private Hospital, AL Kemah Surgical Hospital and AL Ameerat Private Hospital. 30-day perioperative complications were analyzed.

Results: Perioperative early complications were presented in (3.01%) and divided into major and minor complications; in major complications the most common complication were major bleeding (0.59%), then leak in (0.47%). Minor complications: Transient intolerance to food were the most common (0.66%), chest infection (0.42%). (37.8%) patients were presented with comorbid diseases; in which DM (15.7%), HT (13.5%), knee and back arthralgia in (2.6%).

Conclusion: laparoscopic sleeve gastrectomy found to be a safe bariatric operation with acceptable postoperative complications (3.01%).

Keywords: Obesity, Laparoscopic Sleeve Gastrectomy, Complications

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Optimizing Colonoscopy for Improved Detection of Colon Diseases

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Abstract

The most effective method for diagnosing colon diseases is colonoscopy. This procedure allows the doctor to directly visualize the internal structures of the colon and identify any changes, including inflammation, polyps, and tumors. Early detection of such changes can significantly improve treatment success and prevent the development of cancer. However, colonoscopy is not only a diagnostic tool but also an effective preventative measure. The procedure can be used to remove polyps before they become malignant. Thus, colonoscopy offers the opportunity to prevent the development of colon cancer in its early stages. The colon plays a significant role in maintaining overall health. However, like any other part of the body, it is susceptible to various diseases, including colon cancer. This article will examine how modern diagnostic methods, particularly colonoscopy, can be key to addressing and preventing colon diseases. In conclusion, Colonoscopy plays a vital role in the prevention and treatment of colon diseases. Regular procedures can significantly improve patient prognosis and reduce the spread of colon cancer. It is essential to continue educating patients about the importance of this procedure and integrate modern technologies to improve diagnostic and preventative measures. Only through the joint efforts of physicians and patients can we move from problems to solutions in the fight against colon diseases.

Keywords: Colon disease, Diagnosis, Colonoscopy

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Visual Fatigue and Strain: Physiological Basis and Prevention

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Abstract

The general principle of fatigue development in the visual system is determined by the dominant or dominant set of nerve cells in tasks performed by people at close range. Methods exist for diagnosing the functioning of cones and rods during visual fatigue using psychophysical tests and subjective questionnaires. The evoked potential method allows for an indirect assessment of the state of visual fatigue. A negative oscillation of the wave with a latent period of 260 ms and a maximum at Fz has a large amplitude when the stimuli are mismatched and is classified as the N270 (N2) oscillation, which reflects the comparison of signals from different sensory systems and characteristics of attention. N270 (N2) is recorded in a two-stimulus paradigm in response to the second stimulus under conditions of "conflict"—the mismatch of the first and second stimuli in tasks of stimulus comparison with a delayed motor response. In image classification studies that required modifying responses and allowing for errors in responses, it was found that in cases of maximum amplitude values, the N2 latency was [unclear]. Results from the Stroop test may also be potential indicators of fatigue. The Stroop test reflects "psychoemotional stress testing of information processing efficiency under neutral and conflicting conditions" [3] in logical and visual color perception. Thus, it is possible to study visual fatigue not only with psychological tests, but also using psychophysical methods and evoked potentials.

Keywords: Visual fatigue, Assessment, Physiology, Prevention,

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Industrial Aerosols: Susceptibility, Biochemical and Genetic Perspectives in Respiratory Diseases

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Abstract

Occupational exposure to industrial aerosols remains a major contributor to respiratory morbidity, yet disease outcomes vary widely among individuals under similar conditions. This variability underscores the importance of genetic and biochemical factors in determining susceptibility or resistance. While traditional research has focused on the damaging properties of dust, recent advances highlight the role of individual biochemical profiles and genetic polymorphisms in shaping disease progression. This study aims to identify hereditary predisposition and resistance to industrial dust exposure by analyzing genetic markers, protein levels, and enzyme activity. Establishing these indicators will clarify the mechanisms underlying visual differences in disease onset, severity, and complications. The significance of this work lies in its potential to improve occupational health through targeted prevention, early diagnosis, and personalized interventions. By defining the genetic and biochemical basis of individual sensitivity, the research provides a foundation for more effective strategies against occupational respiratory diseases. The aim of the work is to identify hereditary predisposition or resistance to the effects of industrial dusts using a set of genetic and biochemical indicators for the scientific substantiation of the role of individual characteristics of the body in the development of occupational respiratory diseases and the development of medical and preventive measures.

Keywords: Industrial Aerosols, Genetic, Biochemical Markers, Respiratory Diseases, Individual Susceptibility

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