**Challenges in treating children with optic pathway gliomas: an 18-year experience from a middle-income country**

**Abstract**

**Introduction:**Patients with optic pathway gliomas (OPG) have good survival rates although their long-term quality of life can be affected by the tumor or treatment-related morbidity. This retrospective study sought to describe the clinical presentation and outcomes of children with OPG at a tertiary center in Mexico.

**Methods:**Consecutive patients <18 years-of-age with newly diagnosed OPG between January 2002 and December 2020 at the Hospital Civil de Guadalajara Dr. Juan I. Menchaca in Guadalajara, Mexico were included.

**Results:**Thirty patients were identified with a median age of six years. The most frequent clinical manifestations were loss of visual acuity (40%) and headaches (23%). Neurofibromatosis-1 was found in 23.3% of the patients. Surgery, either biopsy or resection, was done in 20 of 30 patients. Two patients died shortly after initial surgery. The 5-year event-free survival (EFS) was 79.3% ± 10.8% and the 5-year overall survival was 89.5% ± 6.9%. Lower EFS was associated with age less than 3 years, intracranial hypertension at presentation, and diencephalic syndrome. Patients who received surgery as first-line treatment had a 3.1 times greater risk of achieving a performance score of less than 90 points at 6 months after diagnosis (p=0.006). Of 10 patients with vision testing, 5 had improvement in visual acuity, 4 had no changes, and one patient showed worsening.

**Conclusion:**Our data suggests that favorable outcomes can be achieved with OPG in low- and middle-income countries, although a high rate of surgical complications was described leading to a lower overall survival. These data can be used prospectively to optimize treatment at this institute and other middle-income countries through a comprehensive, multidisciplinary approach.

**Keywords:**global oncology; low-and middle-income countries; low-grade glioma; optic pathway glioma; visual acuity.

**Prototype of Low-Cost Microvascular Clips for Laboratory Use**

**Abstract**

**Background:**Vascular neurosurgical procedures require temporary or permanent surgical clips to treat cerebral aneurysms, arteriovenous malformations, or bypass surgery. In this scenario, surgical clips should have specific characteristics such as high-quality material, proper design, closing force, and biocompatibility. Due to these characteristics, the price of these clips does not allow their availability at the experimental surgery laboratory worldwide.

**Methods:**We describe here the technique for manufacturing handcrafted clips of low cost, using dental stainless steel or titanium wire of 0.18 mm, 0.20 mm, or 0.22 mm in diameter. We must complete six steps to obtain the clip using our hands and small electrician needle nose pliers for wire molding.

**Results:**These clips have a closing force of 30-60 gr/cm2 (depending on the wire diameter). They can be used in the experimental surgery laboratory to clip arteries or veins during vascular microsurgery procedures. Also, they can be used as temporary clips with confidence in low-flow bypass (v.gr. superficial temporal artery to middle cerebral artery or occipital artery to posterior inferior cerebellar artery anastomoses).

**Conclusions:**Making practical low-cost clips for use in laboratory procedures or during low-flow anastomosis as temporary clips is possible. The main advantages are the low cost and the worldwide availability of the basic materials. The main disadvantage is the learning curve to get the ability to master the manufacturing of these clips.

**Keywords:**Aneurysms surgery; Bypass surgery; Low-cost vascular clips; Microsurgery; Microvascular training; Vascular neurosurgery.

**Transferrin Saturation, Serum Ferritin, and C-Reactive Protein vs. Serum Ferritin for an optimal Iron Deficiency Diagnosis in Candidates for Bariatric Surgery**

**Abstract**

**Introduction:**Iron has different physiological processes and is regulated by hepcidin that is also an acute phase reactant, which increases with inflammation. Obesity produces a pro-inflammatory state, affecting directly the normal regulation of iron, causing ferritin (FER) deficiency. FER is used as the only indicator of the status of iron in patients with obesity, so the majority of them would be underdiagnosed, leading to a high prevalence of iron deficiency (ID) and anemia. The aim of this study is to evaluate the diagnostic tests: transferrin saturation (TS), FER, and C-reactive protein (CRP) vs. FER with the objective of analyzing the most accurate variable for the diagnosis of ID.

**Materials and methods:**We present a cross-sectional, analytical, and retrospective study, evaluating the diagnostic tests in 96 patients, to whom two methods were applied for the diagnosis of ID: method 1 (FER < 30 ng/mL) and method 2 divided into 2A (FER < 30 ng/mL), 2B (FER 30-100 ng/mL + CRP ≥ 5 mg/L), 2C (FER 100-300 ng/mL + CRP ≥ 5 mg/L + TS < 20%), and 2D (TS < 20%).

**Results:**The prevalence of ID obtained using method 1 was 30.2% while 69.8% presented ID using total method 2, confirming an underdiagnosis of 39.6%.

**Conclusion:**The inflammatory state in patients with obesity must be considered in the diagnosis of ID. The use of TS, FER, and CRP has greater validity than the use of serum FER for the diagnosis of ID in patients with obesity.

**Keywords:**C-reactive protein; Ferritin; Iron deficiency.

**Morbidity induced by the infiltration of foreign substances into the buttocks: A systematic review**

**Abstract**

The infiltration of substances into the buttocks for esthetic purposes can cause local or systemic damage. These infiltrated substances, known as adjuvants, foreign substances, and polymers, often lack sufficient and frequently controversial evidence. To identify the systemic complications associated with substances locally infiltrated in the buttocks for treatment, we conducted a systematic review following the PRISMA criteria. Of 275 publications, 29 met the eligibility criteria: 3 systematic reviews, 6 case series, and 20 case reports. The study comprises 463 cases, mainly women (87%), with an average age of 39.94 years. The average time between infiltrations was 7.65 years. Infiltrated substances included silicone, oils, methyl methacrylate, guaiacol, sodium gadolinium, collagen, paraffin, and other unknown substances. The complications fell into three categories: local, systemic with inflammatory-immune response, and renal damage due to hypercalcemia induced by the granulomatosis caused by the substance. Treatment lacked uniformity, mainly focusing on the main effect. Surgical resection of affected tissue resulted in local and systemic improvement (renal, hypercalcemia, or inflammatory-immune) for most patients. Patients who received comprehensive treatment based on inflammatory-immune control, control of renal involvement, and resection of the tissue area that contained large amounts of the infiltrated substance had a better prognosis than those with diffuse infiltration and delayed treatment.

**Keywords:**Buttock; Foreign substance; Illegal substance; Polymer.

**Disseminated sporotrichosis with pulmonary involvement in an iatrogenic immunocompromised man**

*No abstract available*

**Symptomatic gallstone disease: Recurrence patterns and risk factors for relapse after first admission, the RELAPSTONE study**

**Abstract**

**Background:**Delayed cholecystectomy in patients with symptomatic gallstone disease is associated with recurrence. Limited data on the recurrence patterns and the factors that determine them are available.

**Objective:**We aimed to determine the pattern of relapse in each symptomatic gallstone disease (acute pancreatitis, cholecystitis, cholangitis, symptomatic choledocholithiasis, and biliary colic) and determine the associated factors.

**Methods:**RELAPSTONE was an international multicenter retrospective cohort study. Patients (n = 3016) from 18 tertiary centers who suffered a first episode of symptomatic gallstone disease from 2018 to 2020 and had not undergone cholecystectomy during admission were included. The main outcome was relapse-free survival. Kaplan-Meier curves were used in the bivariate analysis. Multivariable Cox regression models were used to identify prognostic factors associated with relapses.

**Results:**Mean age was 76.6 [IQR: 59.7-84.1], and 51% were male. The median follow-up was 5.3 months [IQR 2.1-12.4]. Relapse-free survival was 0.79 (95% CI: 0.77-0.80) at 3 months, 0.71 (95% CI: 0.69-0.73) at 6 months, and 0.63 (95% CI: 0.61-0.65) at 12 months. In multivariable analysis, older age (HR = 0.57; 95% CI: 0.49-0.66), sphincterotomy (HR = 0.58, 95% CI: 0.49-0.68) and higher leukocyte count (HR = 0.79; 95% CI: 0.70-0.90) were independently associated with lower risk of relapse, whereas higher levels of alanine aminotransferase (HR = 1.22; 95% CI: 1.02-1.46) and multiple cholelithiasis (HR = 1.19, 95% CI: 1.05-1.34) were associated with higher relapse rates.

**Conclusion:**The relapse rate is high and different in each symptomatic gallstone disease. Our independent predictors could be useful for prioritizing patients on the waiting list for cholecystectomies.

**Keywords:**biliary colic; biliary pain; cholangitis; cholecystectomy; cholecystitis; cholelithiasis; gallstones; pancreatitis; recurrences; relapse.

**Defining criteria for disease activity states in juvenile dermatomyositis based on the Juvenile Dermatomyositis Activity Index**

**Abstract**

**Objectives:**To develop and validate the cut-offs in the Juvenile DermatoMyositis Activity Index (JDMAI) to distinguish the states of inactive disease (ID), low disease activity (LDA), moderate disease activity (MDA) and high disease activity (HDA) in children with juvenile dermatomyositis (JDM).

**Methods:**For cut-off definition, data from 139 patients included in a randomised clinical trial were used. Among the six versions of the JDMAI, JDMA1 (score range 0-40) and JDMAI2 (score range 0-39) were selected. Optimal cut-offs were determined against external criteria by calculating different percentiles of score distribution and through receiver operating characteristic curve analysis. External criteria included the modified Pediatric Rheumatology International Trials Organization (PRINTO) criteria for clinically ID in JDM (for ID) and PRINTO levels of improvement in the clinical trial (for LDA and HDA). MDA cut-offs were set at the score interval between LDA and HDA cut-offs. Cut-off validation was conducted by assessing construct and discriminative ability in two cohorts including a total of 488 JDM patients.

**Results:**The calculated JDMAI1 cut-offs were ≤2.4 for ID, ≤6.6 for LDA, 6.7-11 for MDA and >11 for HDA. The calculated JDMAI2 cut-offs were ≤5.2 for ID, ≤8.5 for LDA, 8.6-11.3 for MDA and >11.3 for HDA. The cut-offs discriminated strongly among disease activity states defined subjectively by caring physicians and parents, parents' satisfaction or non-satisfaction with illness outcome, levels of pain, fatigue, physical functional impairment and physical well-being.

**Conclusions:**Both JDMAI1 and JDMAI2 cut-offs revealed good metrologic properties in validation analyses and are, therefore, suited for application in clinical practice and research.

**Keywords:**Autoimmune Diseases; Dermatomyositis; Outcome Assessment, Health Care.

**30-day Morbidity and Mortality after Cholecystectomy for Benign Gallbladder Disease (AMBROSE): A Prospective, International Collaborative Cohort Study**

**Abstract**

**Objective:**This study aimed to assess 30-day morbidity and mortality rates following cholecystectomy for benign gallbladder disease and identify the factors associated with complications.

**Summary background data:**Although cholecystectomy is common for benign gallbladder disease, there is a gap in the knowledge of the current practice and variations on a global level.

**Methods:**A prospective, international, observational collaborative cohort study of consecutive patients undergoing cholecystectomy for benign gallbladder disease from participating hospitals in 57 countries between January 1 and June 30, 2022, was performed. Univariate and multivariate logistic regression models were used to identify preoperative and operative variables associated with 30-day postoperative outcomes.

**Results:**Data of 21,706 surgical patients from 57 countries were included in the analysis. A total of 10,821 (49.9%), 4,263 (19.7%), and 6,622 (30.5%) cholecystectomies were performed in the elective, emergency, and delayed settings, respectively. Thirty-day postoperative complications were observed in 1,738 patients (8.0%), including mortality in 83 patients (0.4%). Bile leaks (Strasberg grade A) were reported in 278 (1.3%) patients and severe bile duct injuries (Strasberg grades B-E) were reported in 48 (0.2%) patients. Patient age, ASA physical status class, surgical setting, operative approach and Nassar operative difficulty grade were identified as the five predictors demonstrating the highest relative importance in predicting postoperative complications.

**Conclusion:**This multinational observational collaborative cohort study presents a comprehensive report of the current practices and outcomes of cholecystectomy for benign gallbladder disease. Ongoing global collaborative evaluations and initiatives are needed to promote quality assurance and improvement in cholecystectomy.

***STAT4* Gene Variant *rs7574865* Is Associated with Rheumatoid Arthritis Activity and Anti-CCP Levels in the Western but Not in the Southern Population of Mexico**

**Abstract**

Rheumatoid Arthritis (RA) is a multifactorial autoimmune disease. Currently, several genes play an important role in the development of the disease. The objective was to evaluate the association of the *STAT4 rs7574865* and *rs897200* gene variants with RA susceptibility, DAS28, RF, and anti-CCP in Western and Southern Mexico populations. Genotyping was performed on 476 samples (cases = 240; controls = 236) using the Taqman® system and qPCR probes. Disease activity was assessed using DAS28 and HAQ DI. CRP, ESR, RF, and anti-CCP were determined for clinical assessment. Our study showed there is a statistically significant association with susceptibility to RA for the *rs7574865* variant in the Western population for the GT and TT genotypes. The same genotypes also showed a moderate-to-high activity according to DAS28 and positive anti-CCP compared to the control group. This association was not found in the Southern population. This work confirms the association of the *rs7574865* variant with RA, as well as a moderate-to-high activity and positive anti-CCP in the Western population but not in the Southern population. No association of the *rs897200* variant was found in any of the studied populations.

**Keywords:**CRP; DAS28; RF; STAT4; anti-CCP antibody; rheumatoid arthritis.

**Intestinal Dysbiosis in Subjects with Obesity from Western Mexico and Its Association with a Proinflammatory Profile and Disturbances of Folate (B9) and Carbohydrate Metabolism**

**Free PMC article**

**Abstract**

Obesity is a public health problem with a growing prevalence worldwide. In Mexico, it is estimated that one out of three adults suffer from obesity. In these patients, the intestinal microbiota (IM) undergoes pathological changes that are associated with a dysbiotic state; however, the microbiota profile of adult subjects with obesity from western Mexico has not been described. To assess this, fecal samples were obtained from 65 participants (Obese = 38; Control = 27). The microbial composition was characterized by 16S rRNA amplicon sequencing. The IM of the group with obesity revealed a clear decrease in richness and diversity (*p* < 0.001), as well as a significant increase in proinflammatory bacterial groups, mainly genera belonging to the Negativicutes class, *Escherichia*/*Shigella*, and *Prevotella*. Likewise, an increase in short-chain fatty acid-producing bacteria was found, especially the genus *Lachnoclostridium*. Additionally, PICRUSt2 analysis showed a depletion of vitamin B9 metabolism and an increase in saccharolytic pathways. The IM of patients with obesity possesses a dysbiotic, proinflammatory environment, possibly contributing to lipogenesis and adiposity. Thus, assessing the IM will allow for a better understanding of the pathophysiology of metabolic diseases of high prevalence, such as obesity. These findings are described for the first time in the adult population of western Mexico.

**Keywords:**16S rRNA sequencing; gut microbiota; metagenomic prediction; obesity; western Mexico.

**Frequency of cognitive impairment in patients with neuromyelitis optica spectrum disorder in Mexico**

**Free PMC article**

**Abstract**

**Background:**Between 29% and 67% of neuromyelitis optica spectrum disorder patients have cognitive alterations.

**Objective:**To assess the frequency of cognitive impairment in patients with neuromyelitis optica spectrum disorder in Mexico using the Brief International Cognitive Assessment for Multiple Sclerosis.

**Methods:**We evaluated 40 neuromyelitis optica spectrum disorder patients and 40 healthy controls from Mexico.

**Results:**28 (70.0%) patients with neuromyelitis optica spectrum disorder had cognitive impairment in two or more cognitive domains. Student´s T test showed statistically poor performance by neuromyelitis optica spectrum disorder patients compared to healthy controls on all three neuropsychological test scores. This significant difference was observed on the Symbols Digit Modalities Test (*t* = 8.875; *p* ≤ 0.001); California Verbal Learning Test-II memory (*t* = 10.418; *p* ≤ 0.001); and Brief Visuospatial Memory Test Revised (*t* = 6.123; *p* ≤ 0.001).

**Conclusions:**This study showed that 70% of neuromyelitis optica spectrum disorder patients exhibited cognitive impairment in two or more cognitive domains. Determining the frequency of cognitive impairment will guide the decision of Neuropsychologists in planning cognitive rehabilitation across various domains.

**Keywords:**Brief International Cognitive Assessment for Multiple Sclerosis; Cognitive impairment; neuromyelitis optica spectrum disorders; processing speed; verbal memory; visuospatial memory.

**Acute kidney injury (AKI): Spanish nomenclature also matters here**

**Free article**

*No abstract available*