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Highlights



Management of special hepatitis C populations in Taiwan

Hepatitis C virus (HCV) infection is the global leading cause of liver cirrhosis and hepatocellular carcinoma (HCC). In addition to hepatitis B, Taiwan is also endemic for HCV infection, especially in high-risk populations including people who inject drugs (PWID) and patients requiring dialysis. Meanwhile, certain populations merit special considerations due to suboptimal viral response, potential drug–drug interaction, or possible side effects. In the second part of this HCV consensus, treatment recommendations for the special populations are proposed by Yu et al.¹ to serve as guidance to optimizing the treatment outcome in the era of direct-acting antiviral (DAA). These special populations include patients with acute or recent HCV infection, previous DAA failure, chronic kidney disease, decompensated cirrhosis, HCC, liver and other solid organ transplantations, receiving an HCV viremic organ, hepatitis B virus (HBV) and HCV dual infection, HCV and human immunodeficiency virus (HIV) coinfection, active tuberculosis infection, PWID, bleeding disorders and hemoglobinopathies, children and adolescents, and pregnancy. This consensus statement further provides perspectives regarding the management of hepatitis C in Taiwan.

Surveillance of severe rotavirus gastroenteritis and viral strains in children

Rotavirus still remains a major cause of pediatric gastroenteritis. Previous studies revealed several dominant rotaviral genotypes are responsible for most cases of rotavirus gastroenteritis (RVGE). In this study, Kung et al.² aimed to understand the characteristics of acute gastroenteritis (AGE) caused by rotavirus in young children in Taiwan. A total of 10 hospitals were subjected to prospective hospital-based AGE surveillance, and children younger than 5 years old who were hospitalized due to AGE were enrolled. Stool specimens were collected for rotavirus identification and genotyping via real-time RT-PCR. In addition, non-rotavirus AGE age-matched controls were enrolled. The surveillance

identified 4747 young children hospitalized with AGE. The median age of these patients was 2.0 years. Rotavirus was detected in stool samples from 518 patients (10.9%). The most common serotypes were G3P[8] (303/518, 58.9%) and G1P[8] (86/518, 16.6%). The percentage of G3P[8] increased from 4.9% in 2014 to 74.3% in 2016 ($P < 0.0001$), whereas the percentage of G1P[8] decreased from 61.0% in 2014 to 22.5% in 2015 ($P < 0.0001$). Compared with G3P[8], G1P[8] was associated with a significantly higher C-reactive protein level ($P < 0.05$). In summary, rotavirus remains a notable pathogenic etiology of childhood AGE and the G3P[8] serotype was dominant in Taiwan.

MiR-10b regulated by twist and myofibroblast activities in oral submucous fibrosis

Oral submucous fibrosis (OSF) is a precancerous disorder associated with the habit of areca nut chewing, and miR-10b is upregulated in the oral cancer cells and induced by Twist. Fang et al.³ extended their findings that Twist participated in the pathogenesis of OSF and further investigated whether Twist/miR-10b axis was involved in the activation of myofibroblast in the oral cavity. The expression levels of miR-10b in OSF tissues and fibrotic buccal mucosal fibroblasts (fBMFs) were examined. Besides, the expression of miR-10b was determined in fBMFs following knockdown of Twist or in BMFs after arecoline stimulation. Myofibroblast activities, including collagen gel contraction, migration and wound healing abilities, as well as the expression of α -SMA were measured in fBMFs treated with miR-10b inhibitor. Last, whether the effect of Twist overexpression could be reversed by suppression of miR-10b was examined. The results showed that miR-10b expression was overexpressed in both OSF tissues and fBMFs. The silence of Twist resulted in the downregulation of miR-10b in fBMFs and arecoline treatment led to an increase of miR-10b in a dose-dependent manner. Inhibition of miR-10b ameliorated the activation of myofibroblasts and the expression of α -SMA. Of note, suppression of miR-10b hindered the increased collagen gel contraction caused by Twist overexpression. In brief, miR-10b upregulation in OSF may be

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due to the stimulation of areca nut, leading to elevated myofibroblast activation.

Prevalence of preschool children developmental disabilities in northeastern Taiwan

In this study, Chen et al.⁴ examined the prevalence of developmental disabilities and verify a useful developmental screening tool in a community setting by using a prospective cross-sectional study in northeastern Taiwan in children aged 4 months to 6 years old from well-child visits. A screening program using Taipei City Developmental Screening Checklist for Preschoolers, 2nd Version (Taipei-II), a validated parent-report milestone checklist tailored to the Taiwanese culture and language to assess the prevalence of developmental disabilities was devised. Information about the children's medical conditions and their family were recorded. A total of 3214 children were recruited, of whom 365 had developmental disabilities, with an overall prevalence of 11.4%. Speech and language delay/disorders were the most common developmental problems followed by motor delays, with prevalence rates of 4.8% and 2.3%, respectively. Low economic status, prematurity and/or small for gestational age and a history of perinatal hypoxia or underlying medical disorders were the main risk factors correlated with developmental delays. However, foreign-born mother and aboriginal families were not important factors for poor developmental outcomes. Therefore, the prevalence of developmental disabilities in northeastern Taiwan was 11.4%, and low economic status, prematurity and/or small for gestational age and a history of underlying medical disorders were the main risk factors.

Epidemiological and clinical features of COVID-19 patients in Chongqing, China

Chen et al.⁵ conducted a study on 136 patients with COVID-19 in main district of Chongqing, China. Data of patients included demographic, epidemiological, clinical features, chest radiographs of imported cases, local cases, second-generation cases and third-generation cases. The median age was 47 years and common symptoms of illness were cough (50.7%), fever (47.1%) and fatigue (14.0%). The time from contact symptomatic case to illness was 7.7 days, and 88 patients (64.7%) were cluster cases, radiological evidence found bilateral lung involvement was common (57.4%). Compared with the imported cases, the local cases were significantly older, the proportion of men is lower. There was higher proportion of cluster cases in local cases. Unlike imported cases, which fever was the dominant symptom, the local cases have more cough patients, with a significant higher proportion of asymptomatic patients. The third-generation cases have a significant higher proportion of asymptomatic patients. These data suggested more comprehensive measures for screening patients, especially for elderly person, avoid family gatherings, and implement

more closely surveillance of suspect patients and their close contacts should be taken.

Preoperative adrenal venous sampling index and outcomes of unilateral adrenalectomy

In this paper, Huang et al.⁶ aimed to predict outcomes of adrenalectomy for unilateral primary aldosteronism (PA) using non-stimulated adrenal venous sampling (AVS) indices and the standardized Primary Aldosteronism Surgical Outcome (PASO) criteria. Patients with unilateral PA who underwent adrenalectomy based on non-stimulated AVS and had follow-up data regarding surgical outcomes were enrolled. Demographic data and non-stimulated AVS indices, including lateralization index (LI) and contralateral suppression, were collected for analysis. A total of 54 patients who underwent adrenalectomy were enrolled. Complete clinical and biochemical success was achieved in 31 (57.4%) of 54 patients and 42 (80.8%) of 52 patients, respectively. An LI > 4 was significantly associated with complete clinical and biochemical success (OR = 4.30, 95% CI 1.18–15.68, $p = 0.03$, and OR = 7.55, 95% CI 1.28–44.47, $p = 0.03$, respectively). Contralateral suppression was an independent predictor of complete biochemical success (OR = 17.27, 95% CI 1.95–153.21, $p = 0.01$). Taken together, non-stimulated AVS indices including LI and contralateral suppression are reliable preoperative determinants for predicting the outcomes of adrenalectomy in patients with unilateral PA.

Antiplatelet agents and anticoagulants and the bleeding risk of percutaneous dilational tracheostomy

Huang et al.⁷ investigated the safety of bedside percutaneous dilational tracheostomy (PDT) by pulmonologists in critically ill patients, and the factors associated with complications resulting from PDT. Critically ill patients who had undergone bedside PDT in the intensive care units (ICUs) and respiratory care center were retrospectively enrolled. A total of 312 patients were included, with a mean age of 69.6 ± 17.7 years. Two hundred and eight of the patients were male (66.7%). The mean acute physiology and chronic health evaluation II score was 25.3 ± 6.3 , and the mean body mass index was 22.4 ± 4.2 . Most of the patients were intubated due to respiratory disorders (51.3%). Fifty-six patients (17.9%) received antiplatelet agents or an anticoagulant regularly prior to PDT. All enrolled patients were undergone bedside PDT successfully. The total complication rate of PDT was 14.4%. Patients who took antiplatelet agents or anticoagulants regularly before PDT had a higher risk of bleeding than patients who went without (26.8% versus 7.0%, adjusted odds ratio 4.93 [95% CI 2.16–11.25], $p < 0.001$). Finally, a longer length of intubation resulted in a higher probability in the length of ICU stay being ≥ 28 days (adjusted odds ratio 1.11 [95% CI

1.08–1.14], $p < 0.001$). Thus it was feasible for pulmonologists to perform bedside PDT in critically ill patients. However, the use of antiplatelet agents and anticoagulants may increase the risk of bleeding in such patients.

Interleukin-8 rs4073 polymorphism and prostate cancer

Interleukin-8 (IL-8) is an inflammatory cytokine, which is important for cancer development. In the meta-analysis, Chen et al.⁸ explored the association between IL-8 rs4073 polymorphism and risk of prostate cancer. The methodological quality assessment of included studies was performed based on Newcastle–Ottawa Quality Scale (NOS). Based on the heterogeneity, a meta-analysis using random-effect models was conducted. Pooled odds ratios (ORs) with a 95% confidence interval (CI) were calculated using the allele (T vs. A), homozygous (TT vs. AA), heterozygous (TA vs. AA), dominant (TT + TA vs. AA), and recessive (TT vs. TA + AA) genetic models to assess the strength of the relationship between IL-8 rs4073 polymorphism and prostate cancer risk. In addition, the stability of analysis was evaluated by heterogeneity, sensitivity, subgroup of ethnicity and study design, and publication bias analysis. Finally, 6 case–control studies with a total of 1752 cases and 1982 controls were selected. Significantly higher prostate cancer risk of 1.12 (95% CI = 1.01–1.25), 1.26 (95% CI = 1.03–1.55), and 1.20 (95% CI = 1.02–1.41) were found for the allele, homogeneous, and recessive model, respectively. A tendency of higher prostate cancer risk was observed in all five genetic models, suggesting IL-8 rs4073 polymorphism may be associated with risk of prostate cancer.

Evaluation of soreness in fibromyalgia

Fibromyalgia is a chronic disorder with widespread musculoskeletal pain, and a common complaint is soreness. However, no assessment tool is available to address soreness and evaluate its impact on disease severity. Thus Chang et al.⁹ aimed to establish a questionnaire for soreness assessment and to evaluate its validity in fibromyalgia patients. Patients diagnosed with fibromyalgia per the American College of Rheumatology criteria (2011) were recruited. The Revised Fibromyalgia Impact Questionnaire with an integration of Soreness Assessment (FIQRS) was established by adding five items pertinent to soreness sensation to the existing FIQR. The participants were asked to evaluate their soreness symptoms by filling out the FIQRS twice. The test-retest reliability and internal consistency were assessed. Construct validity was evaluated by correlations with the FIQR and fibromyalgia symptom severity (SS) score. A total of 62 fibromyalgia patients, including 57 females (91.9%; mean age: 51.4 years) were recruited. The intraclass correlation coefficient (ICC) of test-retest reliability was 0.92 for the FIQRS overall score. The Cronbach's α of all the items in the FIQRS was 0.93. The correlation coefficient of the FIQRS total score with the FIQR was 0.97 ($p < 0.0001$) and that with the fibromyalgia SS scale was 0.52 ($p < 0.0001$). In summary, the FIQRS has good reliability and internal consistency for the assessment of disease impact on fibromyalgia patients.

Impact of sarcopenia on mortality in hemodialysis patients

Sarcopenia is common in hemodialysis patients. Lin et al.¹⁰ prospectively evaluated the impact of sarcopenia and its diagnostic criteria on hospitalization and mortality in a cohort of 126 hemodialysis patients. Skeletal muscle mass, handgrip strength (HGS), gait speed, and blood parameters were assessed. Sarcopenia was evaluated using the criteria of the European Working Group on Sarcopenia in Older People and the Taiwanese criteria for Sarcopenia. Muscle quality was defined as HGS divided by mid-arm muscle circumference. The prevalence of uremic sarcopenia were 8.7% and 13.5% according to Taiwanese and European criteria, respectively. Low HGS and gait speed were much more prevalent than low muscle mass. Within 3 years, 79 (62.7%) patients were hospitalized and 26 (20.6%) died. Low HGS and slow gait speed were associated with hospitalization and mortality, while sarcopenia was associated with mortality but not with hospitalization. Notably, in our patients without sarcopenia, close associations between increased hospitalization and mortality risk with low HGS and slow gait speed remained unchanged. In Cox proportional hazard analysis, muscle quality [hazard ratio (HR) = 0.42, 95% confidence interval (CI) = 0.19–0.93, $p = 0.032$] and serum creatinine (HR = 0.82, 95% CI = 0.71–0.95, $p = 0.009$) were independently associated with composite outcome of hospitalization or death. Therefore, compared to muscle mass, muscle functionality and quality can better predict hospitalization and overall survival in hemodialysis patients.

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