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Toho Journal of Medicine Vol. 8 No. 2 掲載論文の紹介

Cardio-Renal Anemia Iron Deficiency Syndrome

Joki N, Hayashi T, Harada M, Tanaka Y

Toho J Med 8 (2): 47—51, 2022

要約：

It is theoretically reasonable to hypothesize that correcting of anemia could lead to better condition of the heart and prognosis in patients with chronic kidney disease (CKD) with/without cardiac disease. Unexpectedly, complete correction of anemia by erythropoietin stimulating agents (ESA) has not improved cardiovascular outcomes in patients with CKD. Iron is known to play a crucial role in oxygen transport as a component of hemoglobin and in cardiac and skeletal muscle metabolism as a component of oxidative enzymes. These physiological roles of iron led us to hypothesize that iron deficiency in itself may directly contribute to cardiac morphological and functional abnormalities independent of anemia. Recently, it is reported that a high prevalence of iron deficiency was seen at the initiation of dialysis and a marker of circulatory iron was inversely correlated with cardiothoracic ratio, as one of the surrogate markers of cardiac enlargement. These findings suggest that not only Hb but also circulatory iron may play an important role in promoting cardiac remodeling. The role of iron deficiency in patients with CKD, with or without anemia, therefore merits clinical awareness, and more insight into the pathophysiology and interplay between iron deficiency, anemia, and CKD is warranted, especially in patients with heart failure. Iron supplementation in the predialysis phase and dialysis phase of CKD may help prevent cardiac remodeling and would be a better outcome.

KEYWORDS: iron deficiency, cardiac myocyte, TSAT, ferritin, heart failure

QOL-Related Factors in Childhood Epilepsy

Kanemura H

Toho J Med 8 (2): 52—60, 2022

要約：

Quality of life (QOL) in childhood epilepsy is associated with clinical and social variables. Among these variables, seizure frequency has been identified as the important predictor of QOL. Additionally, frequency of interictal epileptiform discharges (IEDs) on electroencephalogram (EEG) may accompany transient cognitive/behavioral impairments. Moreover, seizure frequency and/or IEDs may play a role as a mediator of emotional responses including stigma and fatigue in childhood epilepsy. Hence, seizure frequency and/or IEDs are one of the important QOL-related factors in childhood epilepsy. Frontal lobe dysfunctions such as cognitive and behavioral problems can be associated with the reduction in QOL for both child himself and his/her family. Serial three-dimensional MRI studies revealed the frontal/prefrontal lobe growth disturbance during the active phase of epilepsy in some children with neuropsychological problems. Moreover, prefrontal lobe growth showed rapid recovery in epilepsy patients with a shorter active seizure period. These findings suggest that frequent seizures may lead to prefrontal lobe growth disturbance, which relates to neuropsychological problems in children with epilepsy. Furthermore, frequent seizures may be associated with seizure-associated headaches, stigma, parental stigma, and fatigue. Additionally, among IEDs on EEG, which may correlate with persistent pathological neuronal discharges, frontal IEDs may be at risk for seizure recurrence and cognitive/behavioral impairments and may play a role as a mediator of emotional responses including stigma. Moreover, behavioral problems may be associated with secondary bilateral synchrony (SBS) on EEG. There may be a possibility that behavioral impairments will be improved in association with EEG improvement in patients presenting with frontal IED and SBS. Hence, seizure severities and IEDs on EEG may be associated with neuropsychological problems, which relates to the reduction in QOL. The preferable treatment strategy may be required to remit seizures and EEG abnormalities as

soon as possible to accomplish the most favorable prognosis for children with epilepsy.

KEYWORDS: frontal, behavior, stigma, seizure severity, interictal epileptiform discharge (IED)

Inter-Rater Reliability of Grade Evaluation of Post-Clinical Clerkship (Post-CC) OSCE Based on Kappa Coefficient and Agreement Rates

Takayama M, Nakada A, Hiroi N

Toho J Med 8 (2): 61—70, 2022

要約 :

Introduction: Post-Clinical Clerkship (Post-CC) Objective Structured Clinical Examination (OSCE) has been implemented as a unified examination in all medical schools since fiscal 2020. In this study, differences in the grade evaluation of Post-CC OSCE made by faculty members in fiscal 2020 were investigated.

Methods: Grade evaluations of Post-CC OSCE, which was taken by 119 students and 36 faculty members, were analyzed. For the calculation of differences in the evaluation scores between two evaluator faculty members within a station, weighted kappa coefficient, Spearman's rank correlation coefficient, and simple percent agreement were used. The overall evaluation directly linked to a student's pass/fail was compared in each series using the Kruskal-Wallis test and χ^2 test.

Results: The concordance rate of grade evaluation between 2 evaluator faculty members was low and a pass/fail judgment was disagreed on at 35% probability in "physical examination." There were no significant differences among the overall evaluations of each series. However, when the evaluations were categorized into 2 groups on the basis of the pass line (≥ 4 and < 4), there was a significant difference in the pass rate of each series and it ranged from 36.8% to 90.0%.

Conclusions: Disagreement of grade evaluation directly linked to pass/fail was noted between evaluator faculty members as well as between series. In addition to a review of the implementation and assessment methods of examination, it is important to construct a system capable of reviewing the evaluation after an examination.

KEYWORDS: Post-Clinical Clerkship OSCE, interrater reliability, medical education, evaluator

Clinical Changes in Emergency Endoscopic Hemostasis for Gastroduodenal Ulcer

Dan N, Yamaguchi K, Fuchinoue K, Hijikata K, Toba T, Kikuchi Y, Igarashi Y

Toho J Med 8 (2): 71—78, 2022

要約 :

Introduction: This study aimed to examine the endoscopic hemostasis methods and characteristics of patients with gastroduodenal ulcer by comparing two sets of 5-year data. Included in this study are patients who were treated with emergency upper gastrointestinal endoscopy in our hospital over a 10-year study period.

Methods: Patients with hemorrhagic gastroduodenal ulcers who were treated with endoscopic hemostasis via emergency upper gastrointestinal endoscopy in our hospital from January 2004 to December 2008 and from January 2014 to December 2018 were categorized into Groups A and B, respectively. The two groups were retrospectively compared with regard to patient characteristics, hemostasis method, and various risk factors.

Results: Endoscopic hemostasis cases tended to decrease (202 vs. 130 cases, $p = 0.86$). The mean patient age increased (60.4 vs. 67.2 years, $p < 0.05$). There was no difference in the *Helicobacter pylori* infection rates (92.6% vs. 91.5%, $p = 0.89$). The number of patients taking oral proton-pump inhibitors (5.9% vs. 26.2%, $p < 0.05$), oral nonsteroidal anti-inflammatory drugs (17.3% vs. 31.5%, $p < 0.05$), and oral antithrombotic agents (15.3% vs. 28.5%, $p < 0.05$) was increased. The number of patients who underwent endoscopic clipping method (73.3% vs. 34.6%, $p < 0.05$) was reduced. The number of patients who underwent cauterization using hemostatic forceps significantly increased (4.0%

vs. 76.2%, $p < 0.05$).

Conclusions: There was no difference in *H. pylori* infection rates due to the progressive aging of the patients. Fewer cases were treated using endoscopic clipping, whereas more cases were subjected to cauterization using hemostatic forceps.

KEYWORDS: emergency endoscopy, hemorrhagic gastroduodenal ulcers, upper gastrointestinal endoscopy, cauterization, *Helicobacter pylori*

Postrecurrence Prognostic Impact of Squamous Cell Carcinoma Antigen and Serum p53 Antibody at the Time of Recurrence on the Patients with Esophageal Squamous Cell Carcinoma

Moriyama J, Suzuki T, Oshima Y, Nanami T, Yajima S, Shiratori F, Funahashi K, Shimada H

Toho J Med 8 (2): 79–88, 2022

要約 :

Introduction: Only a few papers have evaluated the postrecurrence prognostic impact of serum squamous cell carcinoma antigen (SCC-Ag) and serum p53 antibody (s-p53-Abs) on esophageal squamous cell carcinoma (ESCC) recurrence.

Methods: A total of 218 patients with ESCC who underwent subtotal esophagectomy between 2009 and 2020 were enrolled. Among them, 67 patients developed recurrence by the end of 2020. The postrecurrence prognostic impact of SCC-Ag and s-p53-Abs on recurrence was evaluated.

Results: SCC-Ag, but not s-p53-Abs, positivity increased significantly at recurrence. After combining both tumor markers, 52 of the 67 patients (78%) showed positivity at recurrence. The positivity of s-p53-Abs was not associated with postrecurrence prognosis. SCC-Ag positivity was slightly associated with poor postrecurrence prognosis, although the difference was not significant. Among the subgroups according to the SCC-Ag and the s-p53-Abs status at recurrence, the double-positive group showed the worst prognosis after recurrence.

Conclusions: A combination of serum SCC-Ag and s-p53-Abs showed a high positivity rate of 78% at recurrence, and concurrent use of both the tumor markers may guide postoperative follow-up.

KEYWORDS: serum SCC antigen, serum p53 antibodies, esophageal squamous cell carcinoma, recurrence, prognosis
