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タイトル	Toho Journal of Medicine Vol. 6 No. 4 掲載論文の紹介
別タイトル	PUBLISHED ARTICLES IN THE TOHO JOURNAL OF MEDICINE Vol. 6 No. 4
作成者（著者）	東邦大学医学会編集委員会
公開者	東邦大学医学会
発行日	2020.12.01
ISSN	00408670
掲載情報	東邦医学会雑誌. 67(4). p.154 156.
資料種別	その他
著者版フラグ	publisher
メタデータのURL	https://mylibrary.toho u.ac.jp/webopac/TD62318380

Toho Journal of Medicine Vol. 6 No. 4 掲載論文の紹介

Immune Checkpoint Inhibitors for Advanced Non-Small-Cell Lung Cancer

Kishi K

Toho J Med 6 (4): 137—142, 2020

要約 :

Unfortunately, lung cancer remains the leading cause of mortality in Japan. Until recently, the 5-year survival rate for patients with advanced non-small-cell lung cancer (NSCLC) was less than 5%. Since the recent introduction of inhibitors of programmed death-1 (PD-1) and programmed death ligand-1 (PD-L1), systemic therapy for advanced, or metastatic NSCLC underwent a significant change. This review evaluates emerging data on the efficacy and safety of immunotherapy for advanced NSCLC. PD-1 immune checkpoint inhibitor monotherapy using nivolumab or pembrolizumab showed an impressive 5-year survival rate of around 15% in previously treated patients with advanced NSCLC. Next, the immune-related adverse events can occur, but severe toxicities, such as pneumonitis or colitis, are infrequent. Immunotherapy is now the standard first-line treatment of choice, applied as either monotherapy, or combined with chemotherapy. For patients with a PD-L1 tumor proportion score (TPS) $\geq 50\%$, single-agent pembrolizumab demonstrated improved overall survival (OS) in comparison with platinum-based chemotherapy in patients with both non-squamous and squamous NSCLC without driver mutations. First-line pembrolizumab, carboplatin or cisplatin plus pemetrexed, atezolizumab, bevacizumab, carboplatin plus paclitaxel, atezolizumab, and carboplatin plus nab-paclitaxel showed significantly improved OS, compared with platinum-based chemotherapy alone in patients with advanced non-squamous NSCLC regardless of PD-L1 expression. Among these combination treatments, the use of atezolizumab, bevacizumab, and carboplatin plus paclitaxel in patients with *EGFR* mutations and *ALK* gene rearrangements is encouraging and requires further exploration. Pembrolizumab and carboplatin plus nab-paclitaxel improved OS compared with chemotherapy in patients with squamous NSCLC. To select the most appropriate candidate for immunotherapy, the identification of accurate predictive biomarkers beyond PD-L1 expression remains essential. In addition, to increase the long-term survival rate, efforts to develop strategies to overcome immunotherapy resistance should be initiated.

KEYWORDS: immunotherapy, lung cancer, programmed death-1, programmed death ligand-1

Effects of a Gelled Water on Gastroesophageal Reflux and Gastric Emptying after Percutaneous Endoscopic Gastrostomy

Shigoka H, Maetani I, Yoshida Y, Tominaga K

Toho J Med 6 (4): 143—147, 2020

要約 :

Introduction: For patients who received percutaneous endoscopic gastrostomy (PEG), semisolid enteral nutrients have recently been utilized with the expectation of reducing the risk of gastroesophageal reflux (GER), which is still controversial. The aim of the present study is to evaluate the GER-preventive effects and gastric emptying of gelled water in post-PEG patients with dysphagia using scintigraphy.

Methods: This was a crossover study in which a test using either plain water or gelled water was performed utilizing gastric emptying scintigraphy to investigate the risk of GER and to determine the gastric half-emptying time ($T_{1/2}$).

Results: Radioactivity was detected in the esophageal region, namely GER, in three (12%) patients with plain water, whereas no GER was observed in patients with gelled water ($p = 0.235$). With respect to gastric emptying time, the median $T_{1/2}$ was longer in patients with gelled water than in those with plain water (31 min vs. 15 min, $p < 0.0001$).

Conclusions: Gelled water tends to remain in the stomach for a longer period of time than plain water, leading to a

lower risk of GER and rapid gastric emptying. To verify the prevention of aspiration pneumonia and diarrhea, further study with more subjects is warranted.

KEYWORDS: gastrostomy, gastric emptying, gastroesophageal reflux, scintigraphy, gelled water

Possibility of an Intra-Aortic Balloon Pump as a Bridge Therapy to Recovery for Septic Cardiomyopathy

Toyoda Y, Ichibayashi R, Suzuki G, Sasaki Y, Honda M, Urita Y

Toho J Med 6 (4): 148—155, 2020

要約 :

Introduction: Myocardial damage is reported in about 20% to 60% of sepsis cases. The circulatory system in early sepsis is hyperdynamic in state, but with time, cardiac function decreases and shifts toward cardiogenic shock. This study aimed to determine whether an intra-aortic balloon pump (IABP) could be an effective cardiac support for septic cardiomyopathy.

Methods: Twelve patients with septic cardiomyopathy who were screened between April 2010 and March 2016 in the Saiseikai Yokohamashi Tobu Hospital Emergency and Critical Care Center were enrolled retrospectively for this observational study. Hemodynamics was evaluated using the following parameters: mean blood pressure; heart rate; catecholamine index; and serum lactate level. These parameters were compared before IABP insertion and at 24 and 72 hours after insertion. Cardiac function was assessed by evaluating the N-terminal pro b-type natriuretic peptide (NT-pro BNP) and left ventricular ejection fraction (LVEF) at days 0, 3, and 7 after intensive care unit admission.

Results: The mean blood pressure tended to increase, the heart rate significantly decreased, and the catecholamine index and serum lactate levels decreased significantly after IABP insertion. Nine of the 12 patients survived and showed improved LVEF, which returned to the normal range during the follow-up period.

Conclusions: From our experience of 12 cases, we suggest that IABP may be used for septic cardiomyopathy.

KEYWORDS: sepsis, cardiomyopathy, cardiac support device

Program Evaluation of Problem-Based Learning Tutorial of Clinical Reasoning with Simulated Patients and Simulators by Medical Students in Japan

Nakada A, Yoshihara A, Miyagi M, Okada Y, Namiki A, Kobayashi M, Hiroi N

Toho J Med 6 (4): 156—163, 2020

要約 :

Introduction: We conducted problem-based learning (PBL) with simulated patients (SPs) and simulators in a regular class. We obtained evaluation questionnaires from the students and analyzed them to gauge PBL by incorporating the simulator from the student's perspective.

Methods: The students were administered two kinds of questionnaires after completing their third-year of clinical reasoning PBL in fiscal year (FY) 2018. The students conducted medical interviews with SPs during both PBL sessions and used the simulator for either PBL. We compared the evaluations with and without the simulator.

Results: There were no significant differences in the 17 PBL learning scores and satisfaction levels of both groups. However, there were differences in the reasons for satisfaction and the comments about the PBL forms.

Conclusions: There was a certain degree of intellectual satisfaction because SPs participated on both days. We were able to discern the students' motives and expectations according to the lesson format and understand the improvements.

KEYWORDS: simulator, simulated patient, clinical reasoning, problem-based learning

Psychiatric Day Treatment Specific for Young Individuals with Early Psychosis: A Possible Contribution to Improve Their Functional Outcomes

Funatogawa T, Nemoto T, Yamaguchi T, Katagiri N, Tsujino N, Mizuno M
Toho J Med 6 (4): 164—171, 2020

要約 :

Introduction: In recent years, various interventions for early stages of psychosis, such as first-episode psychosis (FEP) and an at-risk mental state for psychosis (ARMS), have been reported worldwide. Although the importance of psychosocial treatment has been emphasized, few studies have examined the effects of psychiatric day treatment for patients with early psychosis. The aim of the present study was to examine the effects of psychiatric day treatment, which is a comprehensive psychosocial service, for early psychosis.

Methods: Eighty-one subjects with early psychosis (59 FEP and 22 ARMS) who regularly participated in a psychiatric day treatment service known as “Il Bosco” were consecutively recruited. The subjects underwent various clinical assessments at baseline and after 12 months. Cognitive function, psychiatric symptoms, social functioning, quality of life (QOL), global functioning, and dosage of antipsychotics at the two time points were then evaluated.

Results: Significant improvements were observed in various domains, such as cognitive function, psychiatric symptoms, social functioning, QOL, and global functioning, at the follow-up time point, compared with the baseline. There were significant correlations in the frequency of attendance, with changes in memory, positive and negative symptoms, QOL, and global functioning.

Conclusions: Psychiatric day treatment specific for young people with early psychosis can contribute to improvements in various clinical domains.

KEYWORDS: day treatment, early intervention, group psychotherapy, psychosis, schizophrenia

Surgical Repair for Postmenopausal Labial Adhesions Using Y-V Advancement Flaps and Zigzag Sutures

Imaizumi R, Nakamichi M, Takeda K, Onishi K
Toho J Med 6 (4): 172—175, 2020

要約 :

Labial adhesion is defined as the complete or partial fusion of the labia minora in the midline. To treat labial adhesion, manual separation, and dissection are performed, followed by closure with sutures. However, the postoperative recurrence rate of this approach is high.

We performed surgery by combining Y-V advancement flaps and zigzag sutures in a postmenopausal woman. First, we created Y-V advancement flaps on the ventral and dorsal ends of the vaginal vestibule. Second, the wound was closed by zigzag sutures to prevent labial readhesion and bilateral labial contracture.

Two years and three months after surgery, no recurrence or contracture has occurred, and no abnormality of urine flow or dysuria has been noted.

We performed surgery by combining Y-V advancement flaps and zigzag sutures and achieved a favorable outcome with no recurrence or contracture. Level of evidence: Level V, therapeutic study.

KEYWORDS: labial adhesions, labial fusion, Y-V advancement flap, zigzag suture, postmenopausal
