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タイトル	Toho Journal of Medicine Vol. 4 No. 1掲載論文の紹介
別タイトル	PUBLISHED ARTICLES IN THE TOHO JOURNAL OF MEDICINE Vol. 4 No. 1
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	2018.03.01
ISSN	00408670
掲載情報	東邦医学会雑誌. 65(1). p.78 80.
資料種別	学術雑誌論文
著者版フラグ	publisher
メタデータのURL	https://mylibrary.toho u.ac.jp/webopac/TD89098517

Toho Journal of Medicine Vol. 4 No. 1 掲載論文の紹介

Anterior Component Separation Technique for the Repair of Abdominal Wall Incisional Hernias

Shimada N

Toho J Med 4 (1): 1—6, 2018

要約 :

An abdominal wall incisional hernia is one of the common complications of abdominal surgery. An incisional hernia causes a bulge in the abdominal wall and may lead to incarceration or bowel obstruction. Open incisional hernia repairs can be described as simple suture repair, mesh repair, component separation repair, or other repairs. If the hernia defect has a small transverse axial length, simple suture repair can be performed. However, in cases with large hernia defects, a variety of ingenious techniques is required. The anterior component separation technique is an effective method for reconstructing large or complex midline abdominal wall incisional hernias. This technique can restore abdominal wall functionality for defects up to 15 cm at the waistline. One of the benefits of this technique is that autologous tissues are used. Thus, reconstructions can be performed in the presence of contamination or infection in which the use of mesh is contraindicated. On the other hand, this technique has two weak points. First, there are many wound complications following this technique, with the most severe complication being skin flap necrosis. To prevent skin flap necrosis, periumbilical perforator sparing is an effective method. The second is that the reconstruction of defects is slightly more difficult at the subxiphoid and suprapubic regions. Therefore, recurrence is more common in these two regions compared with the mid abdominal region. To reduce the recurrence rate, it is effective to add underlay/sublay mesh repair to this technique. This technique is an effective method for abdominal wall reconstruction with large midline incisional hernias, but it is essential to understand its advantages and disadvantages well.

KEYWORDS: incisional hernia, abdominal wall reconstruction, anterior component separation technique, periumbilical perforator sparing method, mesh repair

Prognostic Significance of Serum Biomarkers in Rectal Cancer Patients Treated with Neoadjuvant Radiotherapy Followed by Radical Surgery

Matoba S, Kuroyanagi H, Moriyama J, Toda S, Hanaoka Y, Shimada H

Toho J Med 4 (1): 7—16, 2018

要約 :

Background: The identification of predictive prognostic factors in locally-advanced rectal cancer patients is crucial before surgery. In this study, we aimed to evaluate the prognostic significance of pretreatment with various serum biomarkers in locally-advanced rectal cancer patients treated with neoadjuvant radiotherapy followed by radical surgery.

Methods: A total of 154 locally-advanced rectal cancer patients who received preoperative radiotherapy or chemoradiation followed by total mesorectal excision at the Toranomon Hospital, Tokyo from April 2010 to December 2015 were retrospectively analyzed to evaluate prognostic variables. Various blood tests, neutrophil-to-lymphocyte ratio (NLR), modified Glasgow Prognostic Score (mGPS), and serum albumin, C-reactive protein (CRP), carcinoembryonic antigen (CEA), carbohydrate antigen 19-9 (CA19-9), and serum p53 antibodies (s-p53-Abs) levels were evaluated before surgery for their prognostic impact. Relapse-free survival (RFS) was evaluated by the Kaplan-Meier method and differences were assessed using the log-rank test. The Cox proportional hazard model was used to assess independent predictors for RFS.

Results: While age, tumor distance from anal verge, CA19-9, and ypT stage were associated with RFS, inflammation and nutritional status such as NLR and mGPS were not. Based on multivariate analyses, patients with a shorter tumor distance from anal verge, higher CA19-9 levels and advanced ypT stage had poorer RFS. Adjuvant chemotherapy in patients with elevated CA19-9 levels demonstrated a trend toward improved RFS, although this was statistically

insignificant.

Conclusions: Although neither inflammation scores nor nutritional status such as NLR and mGPS were prognostic factors, serum CA19-9 level was found to be an independent prognostic predictor of RFS.

KEYWORDS: neutrophil-to-lymphocyte ratio, carbohydrate antigen 19-9, locally advanced rectal cancer, preoperative radiotherapy, prognostic factor

Association of Electrocardiographic Variables and Effectiveness of Oral Amiodarone for Arrhythmia Management

Koike M, Koike H, Shinohara M, Yuzawa H, Fujino T, Ikeda T

Toho J Med 4 (1): 17–24, 2018

要約 :

Background: Oral amiodarone is used to manage refractory atrial and ventricular arrhythmias. Several studies have reported that assessment of serum amiodarone concentration is not associated with its effectiveness. In this study, we have attempted to identify electrocardiographic variables significantly associated with amiodarone effectiveness.

Methods: We analyzed data from 93 consecutive patients (72 men; mean age 64.1 ± 13.0 years) who received oral amiodarone for the treatment of atrial fibrillation ($n=50$), sustained ventricular tachycardia ($n=44$), or ventricular fibrillation ($n=20$). We assessed the relationships between amiodarone effectiveness and 12-lead electrocardiographic variables, particularly QT interval. The efficacy of amiodarone was evaluated by the improvement of tachyarrhythmia, change in the electrocardiograph and in the symptoms during follow-up period.

Results: During the administration period (mean duration 31.8 ± 26.0 months), amiodarone was classified as effective, on the basis of maintenance of the sinus rhythm for 81 patients (87.1%); however, tachyarrhythmia remained in 12 patients (12.9%). Although amiodarone prolonged the QT interval, from 411.0 ± 52.5 ms to 457.6 ± 59.0 ms ($P < 0.001$) during the loading phase, it did not change the interval during the maintenance phase even though the serum amiodarone concentration varied. Multivariate analysis revealed that the heart rate was the only variable associated with amiodarone effectiveness (67.4 ± 12.9 bpm in the effective group vs 80.1 ± 17.7 bpm in the noneffective group, $P=0.003$) one month after administration.

Conclusions: A decreased heart rate was significantly associated with amiodarone effectiveness; other electrocardiographic variables including QT/QTc interval, were not associated with its effectiveness.

KEYWORDS: atrial fibrillation, ventricular tachycardia, ventricular fibrillation, QT interval, RR interval

Development, Reliability, and Validity of a Tool for the Assessment of Ethical Decision-making Skills among Health-related Researchers in Japan

Nakada A, Ibuki T, Kishi T, Matsui K, Namiki A, Tashiro S

Toho J Med 4 (1): 25–34, 2018

要約 :

Background: To support research ethics education in Japan, we attempted to develop a tool with which to evaluate ethical decision-making skills among Japanese researchers.

Methods: We developed a questionnaire that was answered by 164 health-related researchers, who participated through an Internet research company, and graduate students admitted to the Toho University Graduate School of Medicine. The questionnaire consisted of four scenarios (32 questions total; 16 pre-test questions and 16 post-test questions), pre-existing scales used to evaluate construct validity, and questions about participant characteristics including previous experience in research ethics education. Each scenario contains eight short scenes, each of which is accompanied by a question asking participants to select two actions that they would be most likely to take. To evaluate reliability,

we analyzed the Cronbach's alpha value and the Spearman's rank correlation coefficient ρ for two tests that were separated after the study.

Results: The pre-test's and post-test's Cronbach's alpha values are .861 and .873, respectively, and the Wilcoxon signed-rank test showed no significant difference between the two tests ($p=.085$, N.S.). There was a significant correlation between ethical decision-making skills and research ethics education (number of times; $p=.417$, $p<.0001$). Existing scales were used to analyze the construct validity and four of the six scales showed a significant correlation.

Conclusions: Research ethics education increases the scores on the scale constructed in this study, demonstrating its validity. Although its construct validity may require further verification, the constructed scale is highly reliable and has equivalent pre-test and post-test values.

KEYWORDS: ethical decision-making, reliability, validity, measure, Japanese researchers
