

放射線治療学

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編集

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Radiation Therapy

山堂

Improvement in the Prognosis of Japanese Breast Cancer Patients from 1946 to 2001—an Institutional Review

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Primary central nervous system lymphoma in Japan 1995–1999: changes from the preceding 10 years

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Abstract Purpose: Previously, we conducted a nationwide survey of primary central nervous system lymphoma (PCNSL) treated between 1985 and 1994 in Japan. In the present study, we conducted further investigations of PCNSL patients treated between 1995 and 1999 to clarify possible changes with time in the clinical features, treatment, and outcome of this disease. **Methods:** Thirteen Japanese institutions were surveyed, and data on 101 patients with histologically-confirmed PCNSL were collected. These data were compared with those of 167 patients treated at the same institutions between 1985 and 1994. **Results:** Regarding patient and tumor characteristics, the proportion of patients with good performance status (PS) was significantly higher in the group treated during 1995–1999 than in that treated during 1985–1994, but other characteristics were not significantly different. Regarding treatment, more patients in the more recent period (66%) received systemic chemotherapy than those in the preceding period (53%, $P = 0.049$). For all patients, including those who

did not complete radiotherapy, the median survival time was 17 months and 30 months in patients treated between 1985 and 1994 and those treated between 1995 and 1999, respectively, and the 5-year survival rate was 15% versus 31% ($P = 0.0003$). In both patient groups, higher age and tumor multiplicity were associated with poor prognosis in multivariate analysis. In patients treated between 1995 and 1999, those who received systemic chemotherapy showed significantly better prognosis than those who did not ($P = 0.0049$), but the difference was not significant in multivariate analysis ($P = 0.23$). **Conclusions:** The high survival rates observed in the present survey are comparable with those of recent prospective studies employing intensive chemoradiotherapy. The improvement in prognosis appeared to result, at least in part, from the increase in the proportion of patients with better PS. Since the clinical feature and treatment outcome of patients with PCNSL can thus change with the era, historical control data should not be used in comparing different treatment modalities.

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Keywords Brain neoplasm · Lymphoma · Primary CNS lymphoma · Radiotherapy · Chemotherapy

Introduction

Primary central nervous system lymphoma (PCNSL) is increasing and is becoming one of the most important tumors in neuro-oncology. Radiation therapy has been the standard treatment for PCNSL until recently, but the outcome of patients treated by radiation alone has not necessarily been satisfactory (Shibamoto et al. 1990; Reni et al. 1997; Hayabuchi et al. 1998; Nelson 1999). More recently, the use of high-dose methotrexate (MTX)-containing chemotherapy before radiation appeared to have gained some success in obtaining

CLINICAL INVESTIGATION

Esophagus

PROCESS AND PRELIMINARY OUTCOME OF A PATTERNS-OF-CARE
STUDY OF ESOPHAGEAL CANCER IN JAPAN: PATIENTS TREATED WITH
SURGERY AND RADIOTHERAPY

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Purpose: To evaluate the quality of radiotherapy (RT) in Japan, we have been carrying out a national survey through patterns-of-care studies (PCSs) since 1996. We present the preliminary results of surgery combined with RT with or without chemotherapy for thoracic esophageal cancer.

Methods and Materials: A Japanese PCS data format for esophageal cancer was established based on one used in the United States and including information used in the surgical registration system in Japan, so that the results in both countries could be compared. An independent panel of radiation oncologists surveyed randomly selected institutions and patients between September 1998 and March 2001. There were 767 esophageal cancer patients, of whom 220 had undergone preoperative or postoperative RT.

Results: The median age of the 220 patients was 62.3 years (range 31–89); of them, 88.1% were men. Pathologically, 218 patients (99.5%) had squamous cell carcinoma, predominantly located in the middle and lower thoracic esophagus, 41.7% of the patients had Stage III disease; they accounted for 52.6% of patients in nonacademic institutions and for 37.7% of those in academic institutions ($p = 0.016$). Sixty-nine patients received preoperative RT; of them, 60.9% received chemotherapy; 145 patients received postoperative RT with or without chemotherapy. The spinal cord of 23 (11.7%) of 196 patients was irradiated with ≥ 50 Gy. In academic institutions, extended radical “three-field” lymphatic dissection was performed for 72 (48.7%) of 148 patients; however, this sophisticated surgical procedure was done in only 13 (25.5%) of 51 patients in nonacademic settings ($p = 0.004$). In all large academic institutions (those treating ≥ 300 patients annually), ≥ 6 MV of photon energy was used; 30.5% of nonacademic institutes had linear accelerators of < 6 MV photon ($p = 0.001$). No deviations occurred in the radiation dose (median 46 Gy), fractionations, or fields between the two types of institutions. Univariate analyses showed that the statistically significant prognostic factors affecting overall survival were stage ($p = 0.001$), extended radical “three-field” lymphatic dissection ($p = 0.001$), no residual tumor ($p = 0.001$), supraclavicular RT ($p = 0.001$), mediastinal RT ($p = 0.025$), Karnofsky performance status ($p = 0.006$), photon energy ($p = 0.011$), and stratification of the institutions ($p = 0.001$). Multivariate analysis showed that the type of institution ($p = 0.045$, risk ratio = 0.604), stage ($p = 0.029$, risk ratio = 0.572), no residual tumor ($p = 0.006$, risk ratio = 0.487), photon energy ($p = 0.043$, risk ratio = 0.579), and use of chemotherapy ($p = 0.012$, risk ratio = 1.907) significantly affected overall survival.

Conclusion: This PCS showed that in Japan important issues are present regarding RT for esophageal cancer

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Radiotherapy for Extranodal, Marginal Zone, B-Cell Lymphoma of Mucosa-Associated Lymphoid Tissue Originating in the Ocular Adnexa

A Multiinstitutional, Retrospective Review of 50 Patients

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BACKGROUND. Due to the small number of patients and differences in the pathologic classification in most radiotherapy series, information regarding the adequacy of tumor control in patients with ocular-adnexal marginal zone B-cell lymphoma of mucosa-associated lymphoid tissue (MALT lymphoma) is limited. **METHODS.** A multiinstitutional, retrospective study was performed on 50 patients with Stage IE ocular-adnexal MALT lymphoma who were treated with radiotherapy between 1989 and 1999. The impact of patient characteristics and other variables on tumor control was analyzed.

RESULTS. Responses to radiotherapy include a complete response (CR) in 26 patients, a partial response (PR) in 20 patients, and no change in 4 patients. Forty-nine of 50 patients obtained tumor control in the ocular adnexa at 24 months. Overall, 6 patients exhibited disease recurrence at 4–97 months. Three patients developed recurrence in the ocular adnexa. Two patients had isolated extranodal failure involving the oral floor and the submandibular gland, and one patient experienced failure in the neck lymph node. The initial tumor response had a marginal impact on the development of recurrence. None of the 26 patients who achieved a CR experienced ocular-adnexal recurrence. All three patients who experienced local treatment failure belonged to the initial PR group. In total, five of six patients who developed recurrent disease had obtained a PR after initial radiotherapy. Age, gender, tumor location, and dose of radiotherapy did not influence the development of recurrence. There was only one death due to lymphoma. The 5-year overall survival rate was 91% with a median follow-up of 46 months.

CONCLUSIONS. Radiotherapy offers excellent local control with a prolonged clinical course for patients with MALT lymphoma in the ocular adnexa. The initial response to radiotherapy marginally influenced the probability of recurrence. *Cancer* 2003;98:865–71. © 2003 American Cancer Society.

KEYWORDS: extranodal marginal zone B-cell lymphoma, mucosa-associated lymphoid tissue, ocular adnexa, radiotherapy, conjunctiva.

Lymphomas in the ocular adnexa predominantly result from B-cell proliferation and include a variety of histologic types. Although diffuse large cell lymphomas occasionally are encountered, the most common type of ocular-adnexal lymphoma is an extranodal marginal zone B-cell lymphoma of mucosa-associated lymphoid tissue (MALT lymphoma).^{1,2} The concept of MALT lymphoma was described first in 1983 by Isaacson and Wright³ and is now well established in the *Revised European–American Classification of Lymphoid Neoplasms*¹

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Abbreviations:

LRR = local-regional recurrence
SCC = squamous cell carcinoma

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Risk Factors for Local-Regional Recurrence Following Preoperative Radiation Therapy and Surgery for Head and Neck Cancer (Stage II-IVB)¹

PURPOSE: To discover possible risk factors for local-regional recurrence (LRR) following preoperative radiation therapy and curative surgery for head and neck squamous cell carcinoma (SCC) (stage II-IVB).

MATERIALS AND METHODS: Clinical records from 1987 to 1999 of 161 patients with head and neck SCC (oral cavity, 80 patients; larynx, 50; hypopharynx, 19; oropharynx, 12) who underwent preoperative radiation therapy and surgery were retrospectively reviewed. One hundred thirty-two (82%) of the patients had stage III or IV cancer. The median radiation dose was 38 Gy.

RESULTS: The 5-year overall survival rate and LRR rate were 58% and 35%, respectively. At multivariate analysis, oral cavity cancer ($P = .020$), clinical T stage ($P = .016$), clinical N stage ($P = .017$), and status of surgical margins ($P = .008$) emerged as variables that were significantly associated with LRR. The analysis of only those patients with lymph node involvement showed that oral cavity cancer ($P = .008$), advanced N-stage cancer ($P = .045$), and long interval between the start of preoperative radiation therapy and surgery (≥ 7 weeks) ($P = .019$) emerged as variables that were significantly associated with LRR.

CONCLUSION: Oral cavity cancer, advanced T or N stage of disease, and unsatisfactory margins were risk factors for LRR. A long interval (≥ 7 weeks) was a risk factor for LRR in patients with lymph node involvement.

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The local-regional recurrence (LRR) rate after surgery alone for patients with locally advanced head and neck squamous cell carcinoma (SCC) is extremely high (1,2). Combined therapy with radiation and surgery improves local-regional control and overall survival rate of patients with advanced head and neck SCC (3-5). In the late 1960s, the Memorial Hospital (New York, NY) experience demonstrated that preoperative radiation therapy followed by surgery provided better local-regional control than surgery alone for patients with epidermoid carcinoma who underwent radical neck dissection (1). Some prospective randomized trials demonstrated that the outcome of patients who underwent postoperative radiation therapy for locally advanced head and neck SCC was superior to that of patients who received preoperative radiation therapy (6,7). At present, curative surgery followed by postoperative radiation therapy has become the standard therapy for locally advanced head and neck SCC.

Complete surgical resection of head and neck SCC is associated with poor cosmetic outcome and organ dysfunction, including dysphasia and impairment of speech and swallowing, but the outcome of patients with advanced head and neck SCC treated only with conventional radiation therapy is disappointing. The possibility of administering induction chemotherapy to improve the organ preservation rate after radiation therapy or conservative surgery has been investigated. The Department of Veterans Affairs (8) and

悪性リンパ腫の放射線治療

Role of Radiation Therapy in the Management of Malignant Lymphoma

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頭頸部領域の悪性リンパ腫の治療 総論ならびに放射線療法

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論文要旨

頭頸部領域の悪性リンパ腫の特徴は、臓器別に特徴的かつ多彩な疾患が発症することである。次の Key words すなわち WHO 分類、節外性リンパ腫、予後因子が重要である。1) WHO 分類 (2001 年) により規定された各疾患は、それぞれ特徴的な病態と予後を示す。WHO 分類別に治療戦略が立てられる。2) 同一病理型に対して同一治療を行っても生命予後は様々であり、国際予後予測モデル (IPI) を用いて予後予測する。IPI は、治療強度を決定する規準でもある。3) 頭頸部領域では、節外性臓器別に発がんに関わる背景や原因が異なるため、各臓器に特徴ある疾患が発症する。放射線治療に関しては、節外性臓器別に照射技術が異なり配慮を要することが多い。悪性リンパ腫の診療には、耳鼻科・頭頸部外科医、血液病理医、血液腫瘍内科医、放射線腫瘍医などによる共同診療 multidisciplinary approach が不可欠である。

Key words: 悪性リンパ腫 (malignant lymphoma), 放射線療法 (radiation therapy), 頭頸部 (head and neck), 節外性リンパ腫 (extranodal lymphomas), 予後因子 (prognostic factor)

1 悪性リンパ腫治療の Decision making process に必要なこと

頭頸部領域は、臓器別に特徴的かつ多彩な悪性リンパ腫が高頻度に発症することが特徴である。耳鼻科・頭頸部外科医、血液病理医、血液腫瘍内科医、放射線腫瘍医などによる共同診療 multidisciplinary approach が不可欠である。次の病態解析の Key words すなわち WHO 分類、予後因子、節外性リンパ腫が重要である。

1-1 WHO 分類

2001 年に出版された WHO 分類により正常リンパ球の分化過程に対応して規定された各疾患は、それぞれ発がんに関わる背景や原因が異なり、病態に係わる分子生物学的特徴を有するので、それぞれに特異的な病態と予後を示す¹⁾。WHO 分類は、単なる病理分類ではなく分子生物学的研究成果に基づく総合的な分類である。さらに WHO 分類は、治療戦略を立てる際に最も重要な規準である。

1-2 予後予測因子

悪性リンパ腫患者の生命予後を予測し、適切な治療法を選択することは、重要である。最も重要な予後因子は、悪性度の指標でもある病理型すなわち WHO 分類である²⁾。同一病理型に対して同一治療を行っても生命予後

は様々である。国際予後予測モデル International Prognostic Index (IPI) は、5 項目の独立した予後因子、すなわち、年齢・Ann Arbor 病期分類・リンパ節外病巣部位数・PS・血清 LDH 値のそれぞれの危険数 (0 または 1) を数えることにより、Low risk・Low-intermediate・Intermediate-high・High の 4 群に分けて予後予測する³⁾。IPI は、低悪性度リンパ腫にも適応可能であることが検証され、広く臨床に用いられている。頭頸部限局期例に限れば、腫瘍最大径や UICC-TNM 分類も予後因子として評価されているが、合意は得られていない⁴⁾。また、進行期ホジキンリンパ腫には International Prognostic Score (IPS) が提唱されている。Ann Arbor 分類を基本とする病期分類は、予後因子の一つである⁵⁾。

近年、分子生物学予後因子 (CD-5 陽性・p53・bcl-6・BAL・ALK・bcl-2 遺伝子・bcl-2 蛋白・nm23 遺伝子・nm23-H1 蛋白) が報告されている。これらの新知見を基に、IPI に変わる分子生物学予後予測指標が提唱されるであろう⁶⁾。

1-3 節外性リンパ腫

「発がん原因が異なるため、節外性臓器別に特徴的悪性リンパ腫が発症する。」

頭頸部領域の節外性臓器別に悪性リンパ腫の発がんに関わる背景や原因が異なるため、各臓器に特徴ある疾患が発症する⁷⁾。例えば東アジア人の場合、鼻腔では Epstein-Barr (EB) ウイルスが発がんに関与する

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Successful Unrelated Cord Blood Transplantation Using a Reduced-Intensity Conditioning Regimen in a 6-Month-Old Infant with Congenital Neutropenia Complicated by Severe Pneumonia

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Abstract

Here we report the first successful unrelated cord blood transplantation (CBT) using reduced-intensity conditioning for the treatment of congenital neutropenia in a 6-month-old infant with complications of severe pneumonia probably due to *Staphylococcus aureus* infection. Because the patient showed no response to treatment with granulocyte colony-stimulating factor and had a cytogenetic aberration, unrelated CBT with an HLA-DRB1 genotypic mismatch was performed. The number of infused cells was $15 \times 10^7/\text{kg}$. The preparative regimen was fludarabine, cyclophosphamide, and 6 Gy of total body irradiation. Teicoplanin was administered for bacterial pneumonia. Neutrophil engraftment was achieved on day 41 and was followed by clinical improvement. The patient gradually caught up on growth and development after the CBT. Unrelated CBT using a reduced-intensity conditioning regimen may be an effective treatment for congenital neutropenia.

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Key words: Kostmann syndrome; Cord blood transplantation; Reduced-intensity stem cell transplantation; Total body irradiation

1. Introduction

Kostmann reported infantile genetic agranulocytosis causing an early onset of life-threatening infection. In the Severe Chronic Neutropenia International Registry (SCNIR), congenital neutropenia (CN) is defined as an absolute neutrophil count of less than $0.5 \times 10^9/\text{L}$ lasting for months or years, regardless of inheritance [1]. Since granulocyte colony-stimulating factor (G-CSF) became available, the prognosis and quality of life of CN patients have dramatically improved [1]. However, up to 10% of patients are refractory to G-CSF treatment, and hematopoietic stem cell transplantation (HSCT) is indicated. All of the successfully treated patients described in several reports [2-4] received allogeneic HSCT after receiving a myeloablative regimen. Here we report what we believe is the first use of unrelated

cord blood transplantation (CBT) using a reduced-intensity conditioning regimen to treat CN. The patient, a 6-month-old infant, achieved hematopoietic recovery and clinical improvement after undergoing CBT.

2. Case Report

A 4-month-old boy was admitted to our hospital because of respiratory distress. Since birth, he had had omphalitis, acute otitis media, and acute pharyngitis, but there was no family history of repeated infection. The patient's oxygen saturation was less than 90%. A chest x-ray film and a computed tomography scan showed consolidations in the right upper and lower lobes with pleural effusion (Figure 1). The white blood cell count was $3.7 \times 10^9/\text{L}$ with 0% neutrophils, 11% monocytes, 2% eosinophils, 6% basophils, and 81% lymphocytes. The hemoglobin level was 6.8 g/dL, and the platelet count was $542 \times 10^9/\text{L}$. The bone marrow cell differentials showed a selective decrease in the myeloid lineage without any morphologic abnormality. In repeated semisolid cultures of bone marrow cells, no neutrophilic colonies were

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Original Articles

A Multi-institutional Survey of the Effectiveness of Chemotherapy Combined with Radiotherapy for Patients with Nasopharyngeal Carcinoma

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Background: Previous randomized trials have shown a survival advantage of concurrent platinum-based chemoradiotherapy with or without adjuvant chemotherapy for advanced nasopharyngeal cancer. Applicability of these data to a Japanese population is an important issue which remains to be solved.

Methods: A retrospective survey of treatment of patients with nasopharyngeal cancer in 17 institutions in Japan was done with special reference to the relationship between the type of chemotherapy and survival outcome. Chemotherapy used was classified according to: (i) whether ≥ 2 courses of platinum plus 5-fluorouracil (FP) was given; or (ii) whether platinum was administered concurrently with radiotherapy (RT). This resulted in three groups being produced consisting of (i)/(ii) = YES/YES, other miscellaneous (MISC) and RT alone.

Results: Of 333 evaluable replies, 67 patients (20%) corresponded to the YES/YES, 192 (58%) to the MISC and 74 (22%) to the RT alone group. The YES/YES group achieved a better overall survival than RT alone for patients with intermediate stage (T3N0 or T1-3N1, 81.9 versus 60.7% at 5 years, $P = 0.042$) and advanced stage (T4 or N2/3, 56.6 versus 31.5%, $P = 0.017$) disease. The MISC group achieved an almost identical survival rate to that in the YES/YES group for patients with intermediate stage disease (81.9% at 5 years, $P = 0.968$), whereas it was not significantly different from that of the RT alone group for patients with advanced stage disease (44.0%, $P = 0.261$).

Conclusion: The results of this survey mirrored the data from previous randomized trials for patients with intermediate and advanced stage nasopharyngeal cancer in Japan. However, confirmatory prospective trials are required to test the efficacy of less toxic approaches for patients with intermediate stage disease.

Key words: nasopharyngeal cancer – radiotherapy – chemotherapy – survey

INTRODUCTION

Although nasopharyngeal cancer often responds well to radiotherapy (RT), the cure rate in patients with advanced stage disease has not been satisfying (1,2). Local recurrence at the periphery of the irradiated area receiving an insufficient RT

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● 原 著 ●

高齢者切除不能膵癌に対する Gemcitabine Hydrochloride (Gemzar) 治療の現況と問題点 —長野膵癌治療研究会アンケート 53例の検討から—

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(*Jpn J Cancer Chemother* 31(12):1987-1991, November, 2004)

Clinical Problems in Gemcitabine Treatment for Unresectable Pancreatic Cancer in the Elderly—A Multicentric Retrospective Study of 53 Cases—: Nobumichi Takeuchi*¹, Shinya Maejima*², Osamu Hasebe*³, Yoshiaki Matsuda*⁴, Kazuhiro Hanazaki*⁵, Shoji Kajikawa*⁶, Kenji Mukawa*⁷, Koichi Hosokawa*⁸, Ken Hayashi*⁹, Takeshi Hisa*¹⁰, Kiyoshi Furuta*¹¹, Kazuo Tajiri*¹², Yoshiro Fujimori*¹³, Gengo Kaneko*¹⁴, Yasuhide Ochi*¹⁵, Naoto Shikama*¹⁶, Shigeyuki Kawa*¹⁶, Shinichi Miyagawa*¹⁷, Shiro Miwa*¹⁷ and Kendo Kiyosawa*¹⁵ (*¹Dept. of Surgery, Ina Central Hospital, *²Dept. of Gastroenterology, National Sanatorium Chushin Matsumoto Hospital, *³Dept. of Internal Medicine, Nagano Municipal Hospital, *⁴Dept. of Gastroenterology, Nagano Red Cross Hospital, *⁵Dept. of Surgery, Shinonoi General Hospital, *⁶Dept. of Surgery and *⁷Dept. of Internal Medicine Suwa Red Cross Hospital, *⁸Dept. of Internal Medicine Suwa Central Hospital, *⁹Dept. of Surgery, Syowa Inan General Hospital, *¹⁰Dept. of Internal Medicine, Saku Central Hospital, *¹¹Dept. of Internal Medicine, Matsumoto National Hospital, *¹²Dept. of Internal Medicine and *¹³Dept. of Surgery, Hokushin General Hospital, *¹⁴Dept. of Surgery, Iida Municipal Hospital, *¹⁵Dept. of Medicine, *¹⁶Dept. of Radiology and *¹⁷Dept. of Surgery, Division of Gastroenterology, Shinshu University School of Medicine, Nagano Pancreatic Cancer Study Group)

Summary

In Gemcitabine treatment, elderly patients with unresectable pancreatic cancer are more likely to suffer from haematological and non-haematological adverse effects than non-elderly patients. Forty percent of the elderly patients were dropped from the initial protocol due to the adverse effects, mainly because of non-haematological events or symptoms. To avoid adverse effects, the administration schedule for Gemcitabine tended to be less often and at a lower dose for elderly patients among members of the Nagano Pancreatic Cancer Study Group. However, the fact that some cases showed a limited effect from this administration schedule albeit without adverse effect, might suggest that the frequency of ordinary administration schedule should be maintained, although the Gemcitabine dose could be decreased in unresectable pancreatic cancer patients in poor condition. **Key words:** Gemcitabine, Unresectable pancreatic cancer, Elderly patients (Received Feb. 27, 2004/Accepted May 6, 2004)

要旨 高齢者切除不能膵癌に対する gemcitabine hydrochloride 治療について、長野膵癌治療研究会のアンケート結果からその問題点を考察した。非高齢者群に比べて高齢者群では血液毒性および非血液毒性の発現の頻度が高く、1,000 mg/m², 3投1休のプロトコールで開始した症例の40%が減量または投与間隔の変更を行った。スケジュールの変更は消化器症状など非血液毒性によることが多かった。投与スケジュールの適切な変更により症状緩和に努めることが、より長期間にわたる

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 竹内 信道

0385-0684/04/¥500/論文/JCLS

高齢者の放射線治療

小口 正彦* 山下 孝* 五味光太郎*
 鹿間 直人** 池田 恢**

KEY WORD

高齢者
 癌
 放射線治療
 個体差
 QOL

POINT

- 暦年齢のみを基準に、放射線治療の適応を判断してはならない。
- 放射線治療の局所効果・局所制御率は、一般成人例の場合とほぼ同等である。
- 放射線治療の急性・遅発性有害反応は、一般成人例の場合とほぼ同等である。
- 限局期の癌には、根治的放射線治療が可能であり、完遂率が高く約80%である。
- 緩和目的の放射線治療は、短期間で安全に行い、約80%はその目的を達成し得る。
- 全身管理を行う老年内科医との共同診療が重要である。

0387-1088/04/4500/論文/JCLS

高齢者癌とその背景(表1)

1) わが国は本格的な高齢化社会を迎え、高年齢癌患者数は、年々増加してきた。加齢とともに癌罹患率は高まり、特に胃癌、前立腺癌、膀胱癌や悪性リンパ腫にその傾向が強い。多重癌は、加齢とともに増加する。多重の発癌因子の累積が原因となる場合が多いが、第1次癌に対する治療で用いた放射線や化学療法剤による被曝の影響も無視できない。

2) 高齢者の年齢基準は、日本の平均寿命は男性78歳、女性82歳であることから、老年者

の基準を70歳代、後期高齢者では80歳代と提唱している。高齢者の定義は、疾患ごとに異なるが、一般に70歳以上を念頭に置くことが、癌診療の現状から妥当性であろう¹⁾³⁾。

3) 「高齢者の癌はおとなしい」という言葉を耳にする。高齢者には低悪性度の癌の頻度が高いためにそういわれる。例えば、PSAによる検診で早期に発見されるようになった前立腺癌は高齢者に高頻度であるが、その多くは無症状の「潜伏癌」である。しかし、高齢者に非常に悪性度が高い癌が発生することも珍しくない。悪性腫瘍そのものの生物学的性質・悪性度が、年齢によって大きく変わるといふ科学的根拠はない⁴⁾。

4) 高齢者に対する医療と介護に関する認識は大きく変わりつつあり、高齢癌患者への適切

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放射線領域別治療の実際

悪性リンパ腫の放射線治療

小口正彦* 鹿間直人**
Masahiko OGUCHI Naoto SHIKAMA

● Key Words ● 放射線治療, 悪性リンパ腫, 頭頸部 ●

はじめに

頭頸部は、多彩な悪性リンパ腫が高頻度に発症する領域である。頭頸部に限局する悪性リンパ腫の放射線治療の実際について、これまでの知見に若干の経験を交えて解説する。

I. 病理と予後因子

悪性リンパ腫患者の生命予後を予測し、適切な治療法を選択することは、重要なことである。最も重要な予後因子は、悪性度の指標でもある病理型である。2001年に出版されたWHO分類により規定された各疾患は、それぞれ特徴的な予後を示す¹⁾。

同一病理型に対して同一治療を行っても生命予後はさまざまである。国際予後予測モデル international prognostic index (IPI) は、5項目の独立した予後因子、すなわち、年齢、Ann Arbor 病期分類、リンパ節外病巣部位数、PS、血清LDH値のそれぞれの危険数(0または1)を数えることにより、low risk, low-intermediate, intermediate-high, highの4群に分けて予後予測する²⁾。

IPIは、低悪性度リンパ腫にも適応可能であることが検証され、広く臨床に用いられている。頭頸部限局期例に限れば、腫瘍最大径やUICC-TNM分類も予後因子として評価されているが、合意は得られていない³⁾。病期分類は、Ann Arbor分類を基本とするが、数々の問題点を抱えてい

る。UICC/AJCC分類では、節外性stage IIの定義に、頭頸部の固形癌に用いるTNM病期分類の考え方が取り入れられ「節外性悪性リンパ腫の場合、横隔膜の一侧に限局していても、節外性病変に連続しないリンパ節領域に病巣が認められれば4期とする」に変更になっているので注意を要する⁴⁾。

近年、分子生物学予後因子(CD-5陽性、*p53*, *bcl-6*, *BAL*, *ALK*, *bcl-2* 遺伝子, *bcl-2* 蛋白, *nm 23* 遺伝子, *nm 23-H 1* 蛋白)が報告されている。これらの新知見を基に、近い将来、WHO分類が追加改訂され、IPIに変わる分子生物学予後予測指標が体系化させるであろう^{1,5)}。

II. 頭頸部に多い悪性リンパ腫

頭頸部の各臓器は、それぞれに異なる悪性リンパ腫の病因が存在するので、各臓器別に特徴ある悪性リンパ腫は発症する。各臓器別に、代表的な悪性リンパ腫と照射法を表1, 2に示す^{1,5-7)}。次いで、頭頸部に特徴的な悪性リンパ腫について、概略を述べる。

1. MALTリンパ腫 (Marginal zone B-cell lymphoma, Extranodal type: Mucosa-associated lymphoid tissue lymphoma)

1) 疾患概念

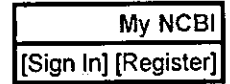
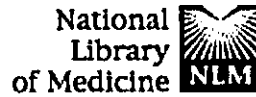
慢性リンパ球浸潤を契機に反応性濾胞の辺縁帯から発症し、濾胞間に進展する低悪性度B細胞性リンパ腫である^{1,6)}。

2) 病理

粘膜病変ではlymphoepithelial lesionを形成する。表面マーカーでは、CD20+, CD21+, CD

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1: [Cardiovasc Intervent Radiol. 2004 May-Jun;27\(3\):288-90.](#)

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A case of aorto-bronchial fistula after insertion of left main bronchial self-expanding metallic stent in a patient with recurrent esophageal cancer.

Onishi H, Kuriyama K, Komiyama T, Tanaka S, Marino K, Tsukamoto T, Araki T.

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We report a case of aorto-bronchial fistula (ABF) caused by a self expanding metallic stent (EMS) 51 days after insertion into the left main bronchus. The patient presented with left main bronchial stenosis caused by post-operative local recurrence of esophageal cancer. Post-operative radio therapy totaling 40 Gy and post-recurrence radiotherapy totaling 34 Gy were administered, with daily fractions of 2 Gy. Stenosis of the left main bronchus improved slightly, and was followed with insertion of EMS to prevent restenosis. The patient experienced massive hemoptysis for 3 days before sudden death. Autopsy revealed the EMS edge perforating the descending aortic lumen. Tumor infiltration and bacterial infection were observed on the wall of the left bronchus, and atherosclerosis was present on the aortic wall around the fistula. It should be noted that the left main bronchus was at considerable risk of ABF after insertion of EMS for malignant stenosis, and prophylactic stent insertion into the left bronchus without imperative need must be avoided.

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がんの集学治療における放射線腫瘍学

—医療実態調査研究に基づく放射線治療の品質確保に必要なとされる基準構造—

Radiation Oncology in Multidisciplinary Cancer Therapy

-Basic structure requirement for quality assurance of radiotherapy based on
Patterns of Care Study in Japan-

日本 PCS 作業部会

厚生労働省がん研究助成金計画研究班 14-6

後 援

厚生労働省科学研究費補助金「第3次対がん総合戦略研究事業」

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がん医療に関わる医療機関関係者、患者、家族の方へ

—序言に代えて—

「がんの集学治療における放射線腫瘍学 —医療実態調査研究に基づく放射線治療の品質確保に必要とされる基準構造—」が完成をみた。これはわが国の今のがん医療の中での放射線治療、放射線腫瘍学の役割について広汎かつ系統的に述べたものである。そして多年に亘る放射線治療現場の実態調査の確固とした結果を踏まえているので説得力はこの上ないものである。Patterns of Care Study (PCS)としての最初の班活動をサポートした者として、PCSの興味ある結果には絶えず関心を寄せてきたので、このような形で結実したことに賛辞を表したい。この書はわが国の放射線腫瘍学のMilestoneとなるであろう。わが国のがん医療には地域や施設間に「格差」があると言われる。それを計測・評価するのにPCSの手法が有用であろう。PCSの手法を多領域に拡大できることを唱えたい。

平成17年1月

国立がんセンター中央病院放射線治療部長

池田 恢

序 文

医療実態調査研究(Patterns of Care Study: PCS)は、国全体の医療の実態を構造、過程、結果の3要素について短期間に遡及的に調べる研究である。医療の質を評価し、問題点を特定し、改善の道筋をつける。1970年代初頭に、米国の放射線腫瘍学分野にて多施設前向き臨床試験グループ Radiation Therapy Oncology Group(RTOG)と同時に立ち上げられ、過去30年間、ともに車の両輪として、放射線治療の質の向上に貢献してきた。わが国では9年前、本研究班メンバーが厚生労働省がん研究助成金の支援を得てPCSを初導入し、過去3次にわたる調査を行い、放射線腫瘍学分野の構造や過程(一部結果)の施設層間格差、日米較差をモニタしてきた。昨今の放射線治療分野の事故頻発もこの構造問題と関連している。本冊子ではこのPCSで得られた具体的な診療実態データにもとづいて、わが国の不備な構造を具体的に改善させるための基準を提示した。それにより真の社会貢献を果たしたいと願っている。

この基準が各医療機関、医育機関や行政に受け入れられ、わが国の放射線腫瘍学分野の構造が具体的に改善されていくことを、PCSでモニタし続けてゆきたい。がんで苦しんでいる患者に、より安全で確実な放射線治療を提供することがわれわれの最終目標である。

平成17年 早春

日本PCS作業部会

厚生労働省がん研究助成金計画研究班(14-6)

「放射線治療システムの臨床評価と精度管理に関する研究」

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