

doi:10.1016/j.ijrobp.2009.06.011

CLINICAL INVESTIGATION

Cervix

MULTI-INSTITUTIONAL PHASE II CLINICAL STUDY OF CONCURRENT CHEMORADIOTHERAPY FOR LOCALLY ADVANCED CERVICAL CANCER IN EAST AND SOUTHEAST ASIA

Shingo Kato, M.D.,* Tatsuya Ohno, M.D.,[†] Kullathorn Thephamongkhol, M.D.,[‡] Yaowalak Chansilpa, M.D.,[‡] Yang Yuxing, M.D.,[§] C. R. Beena Devi, M.D.,[¶] Anita Z. Bustam, FRCR.,^{||} Miriam J. C. Calaguas, M.D.,[#] Rey H. de los Reyes, M.D.,^{**} Chul-Koo Cho, M.D.,^{††} To Anh Dung, M.D.,^{‡‡} Nana Supriana, M.D.,^{§§} Hideyuki Mizuno, Ph.D.,* Takashi Nakano, M.D.,^{¶¶} and Hirohiko Tsujii, M.D.*

*Research Center for Charged Particle Therapy, National Institute of Radiological Sciences, Chiba, Japan; [†]Gunma University Heavy Ion Medical Center, Gunma University, Gunma, Japan; [‡]Division of Radiation Oncology, Department of Radiology, Siriraj Hospital, Mahidol University Faculty of Medicine, Bangkok, Thailand; [§]Department of Gynecologic Oncology, Changzhou Tumor Hospital, Changzhou, China; [¶]Department of Radiotherapy and Oncology, Sarawak General Hospital, Kuching, Malaysia; ^{||}Clinical Oncology Unit, University of Malaya Faculty of Medicine, Kuala Lumpur, Malaysia; [#]Department of Radiation Oncology, St. Luke's Medical Center, Quezon City, Philippines; **Department of Obstetrics and Gynecology, Dr. Jose R. Reyes Memorial Medical Center, Manila, Philippines; ^{††}Department of Radiation Oncology, Korea Cancer Center Hospital, Seoul, Republic of Korea; ^{‡‡}Department of Breast and Gynecology Radiotherapy, National Cancer Institute, Hanoi, Viet Nam; ^{§§}Department of Radiation Therapy, University of Indonesia Faculty of Medicine, Dr. Cipto Mangunkusumo General Hospital, Jakarta, Indonesia; ^{¶¶}Department of Radiation Oncology, Gunma University Graduate School of Medicine, Gunma, Japan

Purpose: To evaluate the toxicity and efficacy of concurrent chemoradiotherapy using weekly cisplatin for patients with locally advanced cervical cancer in East and Southeast Asia, a multi-institutional Phase II clinical study was conducted among eight Asian countries.

Methods and Materials: Between April 2003 and March 2006, 120 patients (60 with bulky Stage IIB and 60 with Stage IIIB) with previously untreated squamous cell carcinoma of the cervix were enrolled in the present study. Radiotherapy consisted of pelvic external beam radiotherapy (total dose, 50 Gy) and either high-dose-rate or low-dose-rate intracavitary brachytherapy according to institutional practice. The planned Point A dose was 24–28 Gy in four fractions for high-dose-rate-intracavitary brachytherapy and 40–45 Gy in one to two fractions for low-dose-rate-intracavitary brachytherapy. Five cycles of weekly cisplatin (40 mg/m²) were administered during the radiotherapy course.

Results: All patients were eligible for the study. The median follow-up was 27.3 months. Of the 120 patients, 100 (83%) received four or five cycles of chemotherapy. Acute Grade 3 leukopenia was observed in 21% of the patients, and Grade 3 gastrointestinal toxicity was observed in 6%. No patient failed to complete the radiotherapy course because of toxicity. The 2-year local control and overall survival rate for all patients was 87.1% and 79.6%, respectively. The 2-year major late rectal and bladder complication rate was 2.5% and 0%, respectively.

Conclusion: The results have suggested that concurrent chemoradiotherapy using weekly cisplatin is feasible and effective for patients with locally advanced cervical cancer in East and Southeast Asia. © 2010 Elsevier Inc.

Cervical cancer, chemoradiotherapy, high-dose-rate brachytherapy, developing country, international clinical study.

Reprint requests to: Shingo Kato, M.D., Research Center for Charged Particle Therapy, National Institute of Radiological Sciences, 4-9-1 Anagawa, Inage-ku, Chiba 263-8555 Japan. Tel: (+81) 43-206-3360; Fax: (+81) 43-256-6506; E-mail: s_kato@nirs.go.jp

Supported by the project of the Forum for Nuclear Cooperation in Asia, the Ministry of Education, Culture, Sports, Science and Technology of Japan, and the Research Project of Cervical Cancer at the National Institute of Radiological Sciences.

Conflict of interest: none.

Acknowledgments—The authors express sincere appreciation to Jianping Cao, M.D., Raden Susworo, M.D., Kunihiko Kobayashi, M.D., Takehiro Inoue, M.D., Yuzuru Kutsutani-Nakamura, Ph.D., Tang Tieng Swee, Ph.D., and Nguyen Ba Duc, M.D., for their support of this work; we also thank Tomoko Takahashi for her assistance with data collection.

Received Dec 19, 2008, and in revised form May 27, 2009. Accepted for publication June 1, 2009.