Survival in Patients with Advanced Non-Small-Cell Lung Cancer Receiving Supportive Care

PRATHEEP RIANTAWAN, M.D., M.Sc., M.R.C.P.(UK)*,
ARNON TITAYANPONG, B.Sc. (Medical Record)*,
RATTANA CHAISUKSUWAN, M.S. (Applied Statistics)*

Abstract

Aims : To fully describe the survival duration among Thai patients with advanced non-small-cell lung cancer (NSCLC) receiving supportive care.

Setting : A 500-bed referral cardiothoracic centre.

Methods : Follow-up study in patients with advanced NSCLC, diagnosed from January to December 1996, who, for a variety of reasons, did not receive chemotherapy or radiation therapy. All patients were followed-up until death or defaulted. Kaplan-Meier survival analysis and log rank test were employed.

Results : A total of 130 patients with histologically proven NSCLC receiving supportive care were followed. 98 patients were males and 32 were females. The mean age was 61 years (SD 13.5). 82 patients were in stage 3B and 48 patients in stage 4. In stage 3B, the median survival was 13 weeks (range : 1 - 94, 75th centile = 7, 25th centile = 18 weeks). For stage 4, the median survival was 8 weeks (range : 0.5 - 31, 75th centile = 4, 25th centile = 10 weeks). For pooled data of stage 3B and 4, median survival was 11 weeks (range : 0.5-94, 75th centile = 6, 25th centile = 16 weeks).

Conclusions : Survival among patients with advanced non-small-cell lung cancer is uniformly short. Considering this poor prognosis, implementation of resources and strategies to diagnose an early stage of lung cancer should be one of the highest priorities in the national health plans.

Key word : Lung Cancer, Non-Small-Cell Type, Survival

Non-small-cell lung cancer (NSCLC) is common and difficult to treat. At least three-fourths of patients with NSCLC are unresectable at presentation because the disease is either metastatic (stage 4) or locally advanced (stage 3B)[1,2]. It is thus one of the leading causes of cancer-related deaths worldwide[2].

* Division of Academic Medicine, Central Chest Hospital, Nonthaburi 11000, Thailand.

Prognosis of patients with advanced NSCLC is notoriously poor. Although survival from various reports was uniformly short, considerable variability exists. Further, the majority of available data arise from patients having received some form of treatment, either palliative radiotherapy or chemotherapy (3-7). Scant data exists on survival of patients with NSCLC naive of active treatment modality.

Current treatment of advanced NSCLC, either chemotherapy or radiation, is less than satisfactory. Its real benefits remain a matter of debate, even(8-10). Survival data on patients with NSCLC naive of active treatment are, therefore, crucially needed in order that survival advantages from active treatment be meaningfully interpreted.

Hence, the present longitudinal study attempted to define survival among Thai patients with advanced NSCLC receiving supportive care only. The data will be of invaluable use as a reference with which results of various treatment modalities are to be compared.

MATERIAL AND METHOD

The study was conducted at the Central Chest Hospital, Nonthaburi, Thailand. This 500-bed, cardiothoracic centre provides referral services for cardio-respiratory diseases for patients from all parts of the country. Primary care is also offered for the surrounding community. It is staffed with medical, surgical, radiological and pathological divisions, and is equipped with diagnostic facilities including computed tomography, fibreoptic bronchoscopy, and percutaneous needle aspiration/ biopsy. Upon completion of investigations, clinical staging was defined for each patient, employing the international TNM system proposed by Mountain CF(11).

Patients

From January to December 1996, patients with histologic proof of NSCLC at the Central Chest Hospital were registered and followed. Those in stages eligible for surgical resection (stage 1, 2, 3A) were treated accordingly and not included herein.

Although patients with advanced NSCLC (stage 3B, 4) and good performance status were offered cytotoxic chemotherapy or radiotherapy, a number of them did not receive either treatment in view of their refusal of antineoplastic agents, or financial limitations. These patients, therefore, received appropriate supportive measures bona fide and formed the group of cohort in the present analysis.

Source of survival data

All the patients were given optimal supportive care, regular follow-ups until death. Readmission was made for various symptoms as clinically dictated. Only the date of expiry from those who died at the hospital was used in the present analysis. Although the Central Chest Hospital is a tertiary referral centre, it also provides primary care for the surrounding community. Thus, a substantial number of patients with lung cancer return to the hospital for medical care as the disease progresses, e.g. a massive pleural effusion requiring intercostal drainage.

Patients who died at home, or those who were lost to follow-up were not included. For the purposes of this study, survival refers to the time-span from the date of histologic diagnosis to the date of death.

Statistical method

Survival (in weeks) was reported as median, range, 25th centile and 75th centile. Kaplan Meier survival analysis was used and log-rank test was employed to compare survival difference between groups(12,13). Statistical significance was assessed at 5 per cent level. Data analyses were performed using an SPSS programme.

RESULTS

As we previously published, there were 309 cases of NSCLC during the study period, January - December 1996(1). As typically seen elsewhere, 82 per cent of these patients (252 out of 309) were in stages ineligible for surgery, namely 185 patients in stage 3B, and 67 patients in stage 4. The details of histologic types, staging, resectability, and cigarette consumption have been described elsewhere(1).

Among the 252 patients with advanced NSCLC, 29 patients were in good performance status and agreed to receive cytotoxic chemotherapy. 26 patients underwent palliative radiotherapy for various complications, e.g. metastases-induced bone pain, superior vena caval obstruction, cerebral metastases etc. 35 patients opted to seek supportive care at local health services. The remaining 162 patients with advanced NSCLC received supportive care and were offered a regular follow-up at the Central Chest Hospital.

Table 1. Survival data of the 130 patients with advanced non-small-cell lung cancer.

Stage	N	Median survival (weeks)	Range	25th centile	75th centile
3B and 4	130	11	0.5 - 94	16	6
3B	82	13	1 - 94	18	7
4	48	8	0.5 - 31	10	4

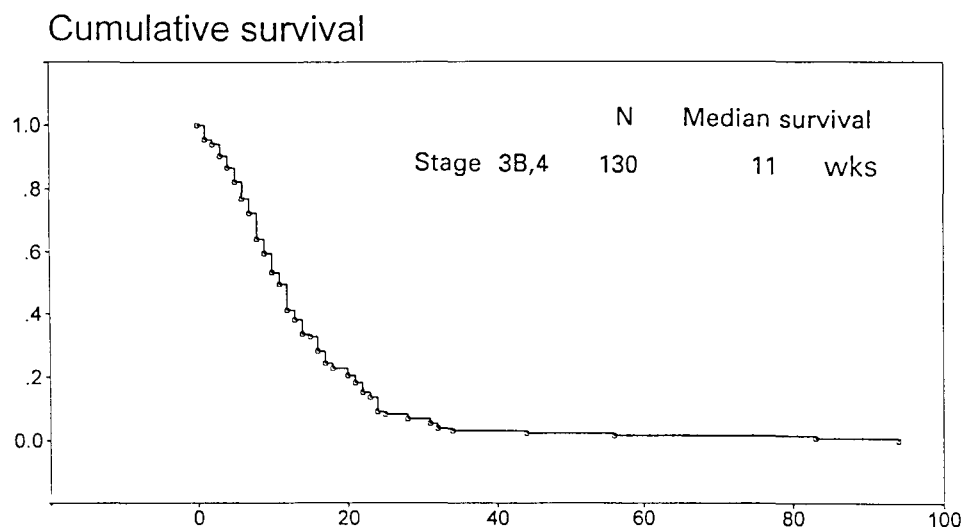

Fig. 1. Survival curve of 130 patients with advanced non-small-cell lung cancer.

Of these 162 patients, 32 patients were lost to follow-up or died elsewhere. A total of 130 patients died at the hospital at various timespans (*vide infra*) and represent the group in the present analysis. Mean age (SD) was 61 (13.5) years. There were 98 males and 32 females. The numbers of adenocarcinoma, squamous cell carcinoma, undifferentiated cell carcinoma were 54, 40, and 24 respectively. In 12 cases, the histopathologic reports were non-small-cell lung cancer as further differentiating was not feasible.

Table 1 summarises survival data of the 130 patients with NSCLC in stage 3B and 4. Median survival of these 130 patients was 11 weeks (range = 0.5 - 94, 75th centile = 6, 25th centile = 16 weeks) (Fig. 1).

Among the 82 patients in stage 3B, median survival was 13 weeks (range = 1 - 94, 75th centile = 7, 25th centile = 18 weeks) (Fig. 2).

Among the 48 patients in stage 4, median survival was 8 weeks (range = 0.5 - 31, 75th centile = 4, 25th centile = 10 weeks) (Fig. 2). The survival in stage 3B is statistically longer than that in stage 4.

DISCUSSION

The present study has fully described survival among Thai patients with non-small-cell lung cancer (NSCLC) receiving supportive care, i.e. naive of active treatment modality in the form of cytotoxic chemotherapy or radiation therapy.

To the best of our knowledge, this report is the first description in this context in Thailand with a sufficient sample size and adequate follow-up duration. The results will be of invaluable use with which survival in patients with advanced NSCLC receiving chemotherapy or radiation therapy to be meaningfully compared.

It cannot be overemphasised that the patients in our study received supportive care bona fide. As in other hospitals in Thailand, all the patients with advanced lung cancer and in good

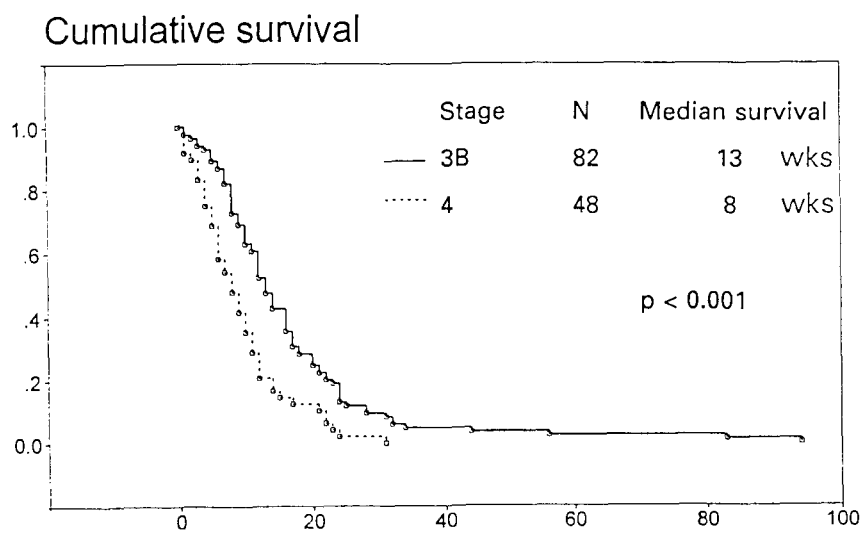

Fig. 2. Kaplan Meier curve of patients with advanced non-small-cell lung cancer stage 3B and 4.

performance status in our hospital are offered chemotherapy or, where indicated, palliative radiation therapy. There exists, however, those who decline active treatment for a variety of reasons, or for financial limitations since chemotherapy in our country is not routinely state-subsidised. These, therefore, make an observational study such as ours possible.

By and large, the survival of patients with advanced NSCLC in various reports is uniformly short. However, considerable variability exists[6, 14-16]. The median survival was only 5 weeks in a report by Cellerino et al[14]. In contrast, the median survival in advanced NSCLC receiving supportive care was 17 weeks in a Canadian multicenter trial[6]. Several factors seem to account for this difference.

The sample size is clearly important. The present analysis entailed a total of 130 patients, far more than most studies[6,14-16]. Moreover, the definition of survival duration was not stated in most reports[14-16]. In our study, survival was defined as the duration between date of histologic diagnosis and date of death.

The median survival in patients with advanced NSCLC in this study, 11 weeks, is comparable to most reports from North America or Europe[6,15,16]. The difference in survival between stage 3B and 4 is not surprising as there is a good correlation between prognosis and different staging, based on the international staging system for lung cancer[11].

It must be mentioned that the survival data in the present study arise from a tertiary referral centre. In many instances, the patients presented to us relatively late, having spent many weeks or months in local health facilities and not achieved a final diagnosis. It is apparent that a patient with a malignant pleural effusion, diagnosed at a local health care, naturally has a shorter duration of disease than the one diagnosed at a tertiary referral centre, having undergone a series of undiagnostic investigations locally. Patients presented to a referral centre, therefore, tend to have a more advanced disease. When utilising the data from our study, one therefore, should take into account this natural bias.

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การรอดชีพในผู้ป่วยไทยด้วยโรคมะเร็งปอดชนิด non-small-cell ระยะ 3B และ 4 ที่รับการรักษาแบบประคับประคองอาการ

ประทีป เหรียญตะวัน, พ.บ., M.Sc. (Univ Glasgow), M.R.C.P.(UK), อ.ว., อานนท์ ฐิตญาณพงษ์, วท.บ.*, รัตนา ชัยสุขสุวรรณ, พบ.ม.**

ได้ศึกษาระยะเวลาการมีชีวิตหลังการวินิจฉัย ในผู้ป่วยไทยด้วยโรคมะเร็งปอดระยะ 3B และ 4 ที่มารับการรักษา ณ โรงพยาบาลโรคทรวงอก ระหว่างเดือนมกราคม - ธันวาคม พ.ศ. 2539. มีผู้ป่วยโรคมะเร็งปอดชนิด non-small-cell อยู่ในระยะ 3B และ 4 จำนวน 252 ราย. ในจำนวน 252 รายนี้, 29 รายได้รับการรักษาด้วยยาต้านมะเร็ง, 26 รายได้รับการฉายรังสีรักษา, 35 รายขอกลับไปรับการรักษา ณ ภูมิลำเนาเดิม, จึงมีผู้ป่วยได้รับการรักษาแบบประคับประคองอาการทั้งสิ้น 162 ราย. ผู้ป่วย 32 รายขาดการติดต่อ, หรือเสียชีวิตที่โรงพยาบาลอื่น, จึงมีผู้ป่วยทั้งสิ้น 130 รายที่รับการรักษาและติดตามจนเสียชีวิต. อายุเฉลี่ย 61 ปี, เป็นชาย 98 คน, หญิง 32 คน. ใน 130 รายนี้, เป็นผู้ป่วยระยะ 3B 82 ราย, ระยะ 4 จำนวน 48 ราย. ระยะเวลาการมีชีวิตอยู่แบบ Median (range) คือ 13 (1 - 94) สัปดาห์ในระยะ 3B, และ 8 (0.5 - 31) สัปดาห์ในระยะ 4. เมื่อรวมผู้ป่วยทั้งระยะ 3B และ 4, ระยะเวลาการมีชีวิตอยู่คือ 11 (0.5 - 94) สัปดาห์.

คำสำคัญ : มะเร็งปอด, ชนิด นอน-สมอล-เซลล์, การรอดชีพ

* ฝ่ายวิชาการ, โรงพยาบาลโรคทรวงอก, กรมควบคุมโรคติดต่อ, นนทบุรี 11000