

# Radiotherapy of double primary esophageal carcinoma

Xiao ZF, Yang ZY, Zhou ZM, Yin WB and Gu XZ

**Subject headings** esophageal neoplasms/  
radiotherapy; neoplasms, double primary/  
radiotherapy

## INTRODUCTION

Double primary esophageal carcinoma is defined as having two foci of squamous cell cancer simultaneously or consecutively developing in different sites of esophagus. This rare disease appears mostly in the literature as case reports<sup>[1-4]</sup>, reports about its treatment are even more infrequent. Here we present our experiences of radiation therapy in 37 patients with this disease and focus the discussion on the optimum method of treatment and complications.

## MATERIALS AND METHODS

### Materials

Criteria for diagnosing double primary esophageal carcinoma: ① typical findings seen in barium esophagograms, ② two separate lesions spaced  $\geq$  4cm apart from each other, with intervening normal mucosa, ③ with endoscopic, pathologic or cytological proof of malignancy, ④ hypopharyngeal or gastric cardia lesions are excluded.

There were 25 males and 12 females, aged 41-80 years, with a peak range of 51-70 years (67.6%). Thirteen of 37 (35.1%) had supraclavicular lymph node metastasis before or during the treatment, 35.1% of patients had lesions in the upper-middle and 64.9% were in the upper-lower segments. The intervening normal mucosa varied from 4 to 13 cm. Length of both lesions was  $\geq$ 5.0 cm in 12 patients,  $\geq$ 5.0 cm in one and  $<$  5.0 cm in the other in 21 cases, both lesions  $<$  5.0 cm in four. The double primaries: developed simultaneously or within 6 months in 48.6%, those

developed beyond 6 months to 3 years in 35.1% and over three years in 16.2%. The longest interval of developing a second primary was 12 years and 8 months. All these were squamous cell carcinoma, among them, 33 were proved by pathology or cytology and 4 by pathology singly.

### Treatment

Thirty-three patients received radiation therapy (separate field irradiation) for both lesions and 4 patients refused to have irradiation of the second lesion because of psychological reasons. Among them, two-thirds were treated by rolling technique, and one-third by antero-posterior irradiation, at 30-40 Gy/wk. The rest of the dose was delivered by two posterior oblique technique. In 59.5%, each individual lesion received a curative dose of 60GY-70GY/30F-35F/6 wk-7 wk and 40.5% received a palliative dose ( $\leq$ 40 Gy/20 F/4 wk) or with one lesion left untreated. Statistical calculation was done by Chi-square test.

## RESULTS

The 1, 3 and 5-year survival rates were 27%, 5% and 0%, different from those with single lesion (38%, 13% and 8.4%) in 3798 patients treated in our hospital but with no statistical significance ( $P>0.05$ ,  $\chi^2=1.854$ ,  $\chi^2=2.1$ ). The failure due to metastasis was very high, giving no 5-year survivor.

The 1- and 3-year survival rates of patients who received curative doses were 27.2% and 9.1% and 26.7% and 0%; for those who received palliative doses. Only those with two lesions irradiated were able to survive more than one year, even with absence of supraclavicular lymph node metastasis, the curative group had no 5-year survival.

In the present series, 62.1% failed by local recurrence, 10.8% by pulmonary radiation injury and 29.8% by distant metastasis.

## DISCUSSION

The 1-, 3- and 5-year survival rates of double primary esophageal cancer treated with radiation therapy were 27%, 5% and 0% as against 38%, 13% and 8.4% with only one lesion, without statistical significance ( $P>0.05$ ). The 1- and 3-year survival rates of curative dose were 27.3% and 9% vs 26.7% and 0% of those given palliative dose. The 1- and 3-year survival rates of those having no supraclavicular lymph node metastasis

Ze Fen Xiao, Zong Yi Yang, Zong Mei Zhou, Wei Bo Yin and Xian Zhi Gu

Department of Radiation Oncology, Cancer Hospital, Peking Union Medical College, Chinese Academy of Medical Sciences, Zuo An Men Wai, Beijing 100021, China

Dr. Ze Fen Xiao, female, born on 1959-01-22 in Sichuan Province, graduated from West China University of Medical Sciences in 1982 and since then has been working in cancer hospital, became associate professor of radiotherapy in 1993, published several articles in international congress and journals.

**Correspondence to:** Dr. Ze Fen Xiao, Department of Radiation Oncology, Cancer Hospital, Zuo An Men Wai, Beijing 100021, China  
Tel. +86-10-67781331 Ext. 8286  
Email: xiaozf@263.net

Received 1999-07-11 Accepted 1999-09-11

were 38.5% and 15.4%.

In debilitated or those who already had supraclavicular node metastasis, palliative dose would give symptomatic relief and prolongation of life. But in cases in which one of the two lesions was left untreated, none lived for over one year.

To improve its prognosis, early diagnosis is essential. During the follow-up examination of post-irradiated esophageal cancer patients, care should be directed not to miss a second primary focus. About 83.3% of the second primary would appear

within 3 years after the detection of the first primary focus.

#### REFERENCES

- 1 Brown AK. A case of double primary carcinomas of the esophagus. *Brit J Surg*,1958;46:476-478
- 2 Rosengren JE, Goldstein HM. Radiologic demonstration of multiple foci of malignancy in the esophagus. *Gastrointest Radiol*,1978;3:11-13
- 3 Sevril ML. Multiple primary, malignant tumors: Proceeding of the Vth Perugia Quadrennial International Conference on Cancer, Division of Cancer Research, Perugia, 1974
- 4 Suri RK, Singh H, Jain S, Gujral JS. Double primary malignant lesion of the oesophagus a case report. *Ind J Cancer*, 1974;11:444-447

Edited by Wu XN and Ma JY  
Proofread by Miao QH