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LETTER TO THE EDITOR

Dear Sir,

Long-term survival from uterine cervical cancer in Mumbai (Bombay), India

Hospital- and population-based results on survival from cancer are available from only very few regions in the developing world, and this information concerns a maximum of 5 years after diagnosis only (Nandakumar et al., *1995; Sriamporn* et al., *1995; Sankaranarayanan* et al., *1995, 1996; Jayant* et al., *1996). There are no reports on long-term survival (10 or 15 years after diagnosis) from cancer in developing countries. This brief report concerns long-term survival from cervical cancer in Mumbai (Bombay), India.*

Cases of cervical cancer (n = 378) were registered for the year 1977 in the population-based cancer registry of Bombay, and survival of 331 was studied after excluding 47 cases registered on the basis of death certificate only (DCO). The distribution of histology was as follows: squamous cell carcinoma, 302; adenocarcinoma, 15; adeno-squamous carcinoma, 3; others, 2; histology not available, 9. The stage distribution of patients was as follows: stage I, 63 cases; II, 96; III, 118; IV, 52. Staging details were not available in 2 cases. Staging was based on the FIGO classification. Treatment details were as follows: 167 patients received radiotherapy; 36 were treated with surgery; 35 had surgery plus radiotherapy; 6 had chemotherapy in addition to surgery and/or radiotherapy; and for 87 cases treatment details either were not available or the subjects received no treatment.

The cutoff date for follow-up was 31 December 1993. Both active and passive methods were used to obtain information on the vital status of cases. Incident cases were matched with death certificates mentioning cancer or tumour as cause of death up to 1995. For unmatched cases, reply-paid postal enquiries were made. For those patients who did not reply, home visits were carried out. Where home visits were not successful, the case records were scrutinized from reporting hospitals whenever possible for last visit and vital status.

The survival time for each case was the duration between the date of incidence and the date of death or of last follow-up. Cumulative observed survival rates were calculated by the Kaplan and Meier (1958) method. Cumulative relative survival rates were calculated as a ratio of observed and expected survival rates (Parkin and Hakulinen, 1991). The expected survival for a group of people in the general population similar to the patient population with respect to age, sex and calendar period of observation was calculated using the Bombay life table.

The overall 5-, 10- and 15-year observed survival rates were 51.0%, 36.3% and 30.0% respectively; the corresponding relative survival rates were 54.8%, 43.0% and 41.1% respectively. Table I shows observed and relative survival by age group, and Figure 1 shows the stage-specific observed survival rates. There was a clear downward gradient in survival with advancing clinical stage of the disease. The 15-year stage-specific survival rates for cervical cancer were as follows: stage I, 79.2%; stage II, 29.2%; stage III, 11.6%. There were no long-term survivors in the stage IV category.

The 5-year survival reported in our study is comparable with other published results from India and from other developing countries (Nandakumar et al., *1995; Sriamporn* et al., *1995; Sankaranarayanan* et al., *1995, 1996; Jayant* et al., *1996). However, these are lower than the population-based survival rates reported for cervical cancer (all ethnic groups) from the SEER (Surveillance, Epidemiology, and End Results) programme of the United States (Ries* et al., *1997) and the European registries (Berrino* et al., *1995). For instance, the 5-, 10- and 15-year relative survival rates for cervical cancers registered in SEER during 1977 were 69.4%, 66.1% and 64.5% respectively; the 5- and 10-year relative survival rates observed in a weighted analysis of data from registries in 12 European countries were 59% and 55%, respectively.*

In spite of the possibility of some misclassification in staging, the long-term survival from early cervical cancer is impressive and indicates that a significant reduction in mortality from cervical cancer could be achieved by early detection and treatment. Gains in 5-year survival have been demonstrated from a rural area of India following earlier detection as a result of improved awareness and motivation (Jayant et al., *1995, 1996). The trend towards diagnosis in earlier stages and the improvement in survival outcome from cervical cancer in Sweden before the introduction of widespread cervical cytology screening provide further observational evidence of the effectiveness of increased awareness linked with facilities for diagnosis and treatment in the control of cervical cancer (Pontén* et al., *1995). It will not be possible to implement organised cervical cytology programmes to control cervical cancer in developing countries for many years, if ever. The performance of unaided visual inspection (clinical down-staging), without the application of acetic acid, involving naked-eye speculum examination of the uterine cervix, is not satisfactory for detecting lesions, particularly pre-invasive lesions (Sankaranarayanan* et al., *1997). It is likely that the magnitude of stage shift anticipated by active case finding with clinical down-staging may be achieved by both improving the awareness of and motivating the public and medical profession. While there is an urgent need to address a feasible and effective alternative to cytology screening with the objective of prevention of invasive cervical cancer, our results and other reports call for sincere efforts to improve awareness among the public and the profession by*

TABLE I – SURVIVAL FROM CERVICAL CANCER BY AGE GROUP

Age group (years)	Observed survival				Relative survival			
	1-year	5-year	10-year	15-year	1-year	5-year	10-year	15-year
<34 (n = 28)	71.6	60.1	45.1	45.1	71.8	61.0	46.5	47.5
35–44 (n = 96)	86.3	65.5	49.4	42.5	86.6	65.9	52.1	47.0
45–54 (n = 113)	77.6	45.8	28.0	24.1	78.2	47.9	31.4	30.0
55–64 (n = 55)	70.9	56.0	40.7	—	72.3	62.2	52.9	—
65–74 (n = 33)	69.0	27.9	23.3	—	72.6	36.7	47.0	—
75+ (n = 6)	80.0	20.0	—	—	88.9	33.9	—	—
All ages (n = 331)	77.7	51.0	36.3	30.0	78.8	54.8	43.0	40.1

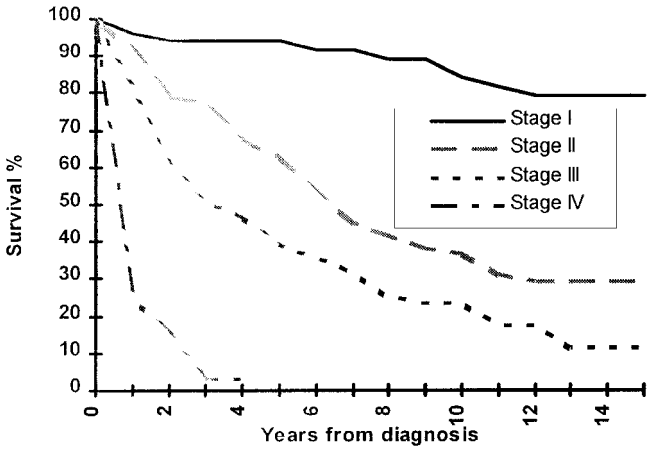

FIGURE 1 – Observed survival from cervical cancer by clinical stages in Mumbai (Bombay), India.

educational measures as a means to reduce mortality from this cancer in developing countries.

Yours sincerely,

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