Abstract

Background: Breast, cervix and ovarian cancers contribute more than 45% of the total in women in Mumbai and survival proportions for these neoplasms are very high in most developed populations in the World. The authors here report and discuss the population-based survival for these cancers in Mumbai, India.

Methods: Follow-up information on 4865 cancers of breast, cervix and ovary, registered in the Mumbai Population Based Cancer Registry for the period 1992-1994 was obtained by a variety of methods, including matching with death certificates from the Mumbai vital statistics registration system, postal/telephone enquiries, home visits and scrutiny of medical records. The survival for each case was determined as the duration between the date of diagnosis and date of death, date of loss to follow-up or the closing date of the study (December 31(st), 1999). Cumulative observed and relative survival was calculated by the Hakulinen Method. For comparison of results with other populations, age-standardized relative survival (ASRS) was calculated by directly standardizing age specific relative survival to the specific age distributions of the estimated global incidence of major cancers in 1985. The log rank test was used in univariate analysis to identify the potentially important prognostic variables. The variables showing statistical significance in univariate analysis were introduced stepwise into a Cox Regression model to identify the independent predictors of survival.

Results: The 5-year relative survival rates were 46.2% for breast, 47.7% for the cervix and 25.4% for the ovary. Higher survival was observed for those younger than 35 years for all these three sites. For each, survival declined with advancing age. Single patients who

remained unmarried had better survival. For all sites Muslims had a better and Christians a lower survival as compared to Hindus. Education did not appear to be of significance. Survival decreased rapidly with advancing clinical extent of disease for all sites. With localized cancer, 5-year rates ranged from 54.7% to 69.3%, for regional spread 20.4% to 41.6% and distant metastasis not a single site recorded more than 5%. On multivariate analysis, age and extent of disease emerged as independent predictors of survival for all the sites.

Conclusion: All the sites included in the study demonstrated moderate survival rates with significant variation. Comparison with other populations revealed lower survival rates as compared to developed countries, particularly for breast and ovary. In Indian populations survival proportions did not show much variation for these cancers. Early detection and treatment are clearly important factors to reduce the mortality from these cancers.