

## F. BREAST CANCER IN LEBANON. INCREASED AGE-ADJUSTED INCIDENCE RATES IN YOUNGER-AGED GROUPS AT PRESENTATION: IMPLICATIONS FOR SCREENING AND FOR ARAB-AMERICAN ETHNIC GROUPS

N.S. El Saghir, MD; A. Shamseddine, MD; F. Geara; K. Bikhaz;  
B. Rahal; Z. Salem; A. Taher; A. Tawil; Z. Khatib; J. Abbas;  
M. Hourani; A. Khalil; M. Seoud

Breast cancer is the most common malignancy in women worldwide, constituting 22% of all cases. Parkin estimated the number of new cases of breast cancer at 579,000 in developed countries and 471,000 in less-developed countries in the year 2000.<sup>1</sup> International variations in etiologic factors, ages, distributions, and stages of disease vary greatly. In the United States and Western Europe, approximately 50% of all women with newly diagnosed breast cancer are older than 65 years; while in Lebanon and other developing countries, a trend of younger age at presentation is noted in women. In the Western Hemisphere, a higher number of cancers are early-stage and in situ at presentation, while in most developing countries a higher percentage of disease is locally advanced and metastatic at presentation.

The American University of Beirut Medical Center (AUBMC) is one of the largest hospitals in Lebanon. It is a primary and tertiary care facility and operates as both a community hospital and academic medical center. The AUBMC sees one third of all cancer cases in Lebanon.<sup>2,3</sup> It has a fully operational cancer registry. All cases between 1983 and 1992 were entered retrospectively. From 1992, after the end of civil war, cases were entered prospectively. Name, sex, address, age at presentation, and histological type of cancer coded according to International Classification of Diseases ICD-O were entered and analyzed.<sup>4</sup>

We used the sex-specific age distribution of 1995 Lebanese Population and Housing Survey to estimate the age-specific incidence of breast cancer in

Lebanon.<sup>5</sup> Results were calculated as number and proportion of cases, 10-year age-specific incidence, crude rates, and age-standardized rates (ASR) per 100,000 population. The ASR per 100,000 population was estimated by the direct method with the use of the World Standard Population.<sup>6</sup>

Between 1983 and 2000, we saw 16,421 cancers, 8,007 of which were in women. There were 2,673 female breast cancers, averaging 148 cases per year (range: 94–202). In women 49.1% were younger than 50 years. Mean age was 49.8 years  $\pm$  13.9. Ten-year age groups distribution showed that 4.7% were below 30 years of age, 16.1% were 30–39 years, 28.3% were 40–49 years, 26.3% were 50–59 years, 16.9% were 60–69 years, 6.1% were 70–79 years, and 1.6% were 80 years of age or older. Twenty-two patients (0.9%) had their age missing in the records. Overall ASR was 30.6, for a crude rate of 27.7. Peak ASR was among women 50–59 years of age, followed by women 40–49 years then 60–69 years, with age-specific incidences at 96.3, 79.9, and 77.4 per 100,000, respectively. We had 19 male breast cancer cases corresponding to 0.7% of the total.

Data are compared to neighboring Arab countries as well as selected Western countries in Table 1.

The percentage of women with breast cancer in Lebanon seen at AUBMC in pre-menopausal and younger age groups is greater than the series reported from western countries, where 50% of cases are over 65 years of age. Clinical observation from other Arabic countries and comparative ASRs and

---

From the American University of Beirut Medical Center, Lebanon.

**Table 1. Selected ASR for breast cancer in women in Lebanon and selected countries, adjusted to WHO standard population per 100,000, place Lebanon lower than developed countries and higher than other developing ones\***

Lebanon (1983– 2000)	Jordan (2000)	Saudia Arabia (1994–1996)	Algeria (1990–1993)	Kuwait (1992–1993)	UK, England and Wales (1988–1990)	France, Bas-Rhin (1988–1992)	United States SEER: White (1983–1987) SEER: Black (1983–1987)
30.6	22.0	14.0	9.5	32.8	68.8	78.8	90.7 (W) 79.3 (B)

\* Modified from Parkin<sup>7</sup> and updated from El Saghir.<sup>8</sup>

age-specific standardized incidences show that breast cancer is seen in younger groups.

Our study emphasizes the need to have good cancer national or regional registries throughout developing countries, especially the Eastern Mediterranean Region of the World Health Organization, which includes Lebanon and neighboring Arab countries, where cancer and other non-communicable diseases have become the principal causes of mortality (WHO publications).

In situ disease has become very common in the developed world because of widespread implementation of screening exams and mammography; however, locally advanced and metastatic disease at presentation remains more common in developing countries. This finding is particularly and more tragically important in younger women. Therefore, our study emphasizes the need to implement international guidelines for screening and mammography.

In addition to monthly breast self exams (BSE) starting at age 20, we recommend that a clinical breast examination (CBE) by a physician be done according to the recommendations of the American Cancer Society.<sup>9</sup> It should be done once every three years starting at age 20, but we recommend that CBE becomes annual from the age of 30 rather than 40. We emphasize the need to teach women correct methods of breast self-examination and to stress graduate and post-graduate training of medical students, house staff, practicing

physicians and obstetricians-gynecologists, and nurses to perform proper breast examinations. Physicians should also become more acquainted with findings of benign lumps and fibrocystic diseases. Initial approach to benign, non-suspicious lumps in young patients should be an ultrasonic examination. True-cut biopsies should avoid the need to remove most benign nodules. Mammography screening should start at the age of 40. Advanced and metastatic breast cancer can be devastating not only to the woman, but also to her family, particularly in the cases of younger patients. Therefore we suggest that more emphasis should be placed on asking husbands to encourage their wives to enroll in screening campaigns.

We emphasize implementation of education, screening, and early detection programs in Lebanon and developing countries and also stress the need to implement guidelines for quality screening mammography. Outside the United States and the Western Hemisphere, very few countries regulate, inspect, or license mammography centers. Periodic recalls of women and computerized information is still lacking in most these countries.<sup>10</sup>

Our results emphasize the need to search for possible environmental, lifestyle, and/or genetic risk factors in Lebanon. A national study of BRCA-1 and BRCA-2 mutations in Lebanon is now in progress at the American University of Beirut and is funded by the Lebanese National Research Council.<sup>8,10</sup>

Observation and study of breast cancer incidence among immigrant and American women of Lebanese and Arabic descent, especially in the Detroit area, are important. We also point out that Western Europe and Australia have large numbers of immigrants and descendants of Lebanese and Arabic origins, and these data may relate to them as well.

**REFERENCES**

1. Parkin DM. Global cancer statistics in the year 2000. *Lancet Oncol.* 2001;2:533–543.
2. Geahchan N, Taleb N. *IARC Meeting Proceedings.* Lyon, France: International Agency for Research on Cancer; 1986.
3. Lebanese Cancer Epidemiology Group. Unpublished observations.
4. El Saghir NS, Adib S, Mufarrrij A, et al. Cancer in Lebanon: analysis of 10,220 cases from the American University of Beirut. *J Med Liban.* 1998;46:4–11.
5. United Nations Fund for Population Activities and the Lebanese Ministry of Social Affairs. *Statistical Tables for the Population and Housing Census.* Publication No. 1997.
6. Hill C, Menhjou E. Age standardization in epidemiological studies. *Int J Epidemiol.* 1995;24:214–242.
7. Parkin DM, ed. *Cancer Incidence in Five Continents.* Vol 7. Lyon, France: International Agency for Research on Cancer; 1997. Scientific Publication No. 143.
8. El Saghir NS, Shamseddine AI, Geara F, et al. Breast cancer in Lebanon: increased percentages and age-adjusted incidence rates in younger-aged women. *J Med Liban.* 2002; 50(1–2):3–9.
9. *American Cancer Society Fact and Figures 2002.* Atlanta, Ga: ACS publications.
10. El Saghir NS. Breast cancer: a global health-care issue. *ASCO News Quarterly Magazine.* April–June 2002. American Society of Clinical Oncology website. Available at: www.asco.org/publications/asconews.