



# Male breast cancer in Armenia (1980-2000)

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*We analyzed the incidence of male breast cancer in Armenia over the period of 20 years (1980-2000). The obtained data showed that, unlike female BC, male BC incidence also varies in Armenia as in most developed and developing countries, but without any regularity. The mean crude rate for the observed period is lower than in developed but comparable with developing countries. The most important peculiarity of male BC in Armenia is young age of patients.*

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## INTRODUCTION

Unlike female BC, male Breast cancer (BC) is a rare disease (1). The sex ratio (female:male) with BC is a factor more than 100 in the USA, Canada, France, Estonia, Belarus, Latvia. The lowest male BC incidence is in Thailand (crude rate [CR] equal to 0.1) and the highest is in Israel (CR equal to 1.6). Also, high number of men with BC is annually registered in Italy, Iceland and France (CR equal to 1.0-1.3). In the USA, Canada, Ireland, New Zealand it is about 0.8 per 100,000 men. In most developing countries crude rate of BC among men is about 0.3-0.4 (1). It is known that BC in men varies both ethnically and geographically (1,2). In the USA male BC incidence is higher in Afro-American than in white population. But in white men there is a substantial difference between non-Hispanics and Hispanics. In other US nations (American Indians, Chinese, Japanese, Hawaiians, Koreans, Vietnamese) it is extremely rare disease with very low incidence (2).

Recently, we reported that total cancer incidence in Armenia was substantially lower than in developed countries and comparable with most developing countries (3). Female BC in Armenia is significantly lower than in the most developed and some developing countries. But comparative mortality of patients with BC is much higher than in many countries (4).

From this point of view it would be of interest to analyze male BC,

too. In 1980, crude rate of males BC was 1.4 in Armenia and was the highest among republics of the USSR (5). The mean crude rate for the USSR was 0.3 (4.6-fold lower than in Armenia) (6).

The aim our paper was to analyze male BC incidence in Armenia during the period of 20 years (1980-2000). It was interesting because, beginning from 1988, Armenia is practically monoethnic republic.

## MATERIALS AND METHODS

In our analysis we used official data of Department of Epidemiology of Cancer Research Center and Antitumor Dispensary, Yerevan, Armenia. As indicated in our recent articles (3,4), it was impossible to standardize the data concerning cancer incidence. Because of the lack of relevant data we operated only with CR.

## RESULTS AND DISCUSSION

In 1980 and from 1989 to 1991, BC was diagnosed in 12 to 14 men annually in Armenia; five men were diagnosed with this disease from 1985 to 1988, and 6 to 10 men from 1992 to 2000. Because of the absence of real data concerning the population of Armenia (3,4), we used approximate data and the methods described in our previous paper.

We calculated CRs on the basis of the number of BC incidence. It was 1.4 in 1980, 0.31-0.43 during 1981-1988, 0.71-0.74 during 1989-1991, and 0.43-0.58 during 1992-2000. The mean CR for the period of 20 years was 0.51.

In 1980 BC consisted 0.55% of all malignancies in males, 0.2% in 1985, 0.5% in 1990, 0.33 in 1995, and 0.44 in 2000. Median age at diagnosis was 75+ years in 1980, 63 years during 1985-

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1989, 56 years during 1990-1996, and 62 years during 1997-2000. It is noteworthy that in the most developed countries vulnerable age is 70+ years. It is noteworthy that almost all patients with BC treated at Cancer Research Center, Yerevan, Armenia, during 20 years were Armenians (110 of 112). Only 30% of patients lived in rural areas of Armenia. The vast majority of BC cases were invasive ductal carcinoma.

We compared our data with data of BC incidence in some former Soviet Republics (Table 1). The data presented in Table 1 showed no regularity in BC incidence in Armenia. As it can be noted, in 2000 BC incidence is 2.4-fold, in 1990 1.9-fold, and in 1985 4.5-fold lower than in 1980. Because of very low number of cases (maximally 13 cases per year) crude rates varies substantially. It is noteworthy that in the USA in frames of the SEER program when the number of cases is less than 25, rates are not calculated (2). May be it is suitable for great countries, like the USA and Russia, but for Armenia with population about 3 million inhabitants it must be calculated.

In conclusion we may suggest that, unlike female BC, male BC incidence also varies in Armenia as in most developed and developing countries, but without any regularity. The mean CR for 20 years is less than in developed and comparable with the data of developing countries. The most important peculiarity of male BC in Armenia is young age of patients.

**Table 1.** Crude rates of male breast cancer incidence from 1980 to 2000 in four former Soviet Republics

Republic	1980	1985	1990	2000
Armenia	1.4	0.31	0.75	0.58
Belarus	0.4	-	0.3	-
Estonia	0.1	-	0.5	0.6
Latvia	0.6	-	0.5	-

- No data available

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