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After introduction of mammography screening the positive effects on tumor size reduction and decline in malignancy potentials appear after a decade of screening

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Abstract

After the first introduction of mammography in some of the Swedish counties in 1974 it took more than 10 years before mortality in breast cancer decreased by 5% in a cohort from 1987-1988, and two years later in a cohort from 1989-1990 the mortality decreased by 8%. In 1989 mammography screening was introduced in the Stockholm Gotland County for women aged 50 to 69 years and screened every second year. For the presentation two cohorts two years (1991) and eight years (1997/98) after the introduction of screening were analyzed. The effect on tumors size, genomic instability, tumor proliferative activity, lymph node metastasis and tumor stage I and IIB were investigated. A significant reduction in tumors size in the 1991 sample appeared at diagnosis only for tumors in the size interval >20 mm ($p<0.05$) in the patient group aged 60 to 69 years having the best chance of performing two mammography screenings since 1989. No increase in the tumor size interval ≤10 mm was found. In the 1997/98 sample eight years later, tumor size at diagnosis was significantly reduced in the two size intervals ≤10 mm ($p<0.01$) and >20 mm ($p<0.01$) already in the age patient group from 50 to 59 years and much more enhanced in the second decade screened aged 60 to 69 years ($p<0.001$). Parameters for genomic instability, proliferation activity, lymph node metastasis and tumor stage were all reduced only for patients screened in the age interval 60 to 69 years.

Biography

Dr. Roland Sennerstam completed his Ph.D. in the eighties at the Karolinska Institutet and is associate professor at the department of Oncology and Pathology at the Karolinska Hospital Stockholm, Sweden. He has published more than 35 papers in reputed journals. He has combined research with clinical work as physician in medicine and oncology. In research he has focused upon tumor cell proliferation and the cell cycle progression. He has together with prof. Jan-Olov Strömberg developed a model for the cell cycle published in1995. Lately, Dr. Sennerstam has studied genomic instability and change in DNA-ploidy during tumor progression.