

Opportunistic breast cancer early detection in Tyrol, Austria 1996–2004 Is a mammography-screening program necessary?

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Abstract

Purpose: Evaluate the need for a mammography-screening program for Tyrol, as recently proposed in an ÖBIG feasibility study commissioned by the Austrian Ministry for Health and Women, in view of the already existing organized opportunistic screening.

Materials and methods: This author has examined the state of breast cancer early detection and diagnosis in Tyrol. A comprehensive review of all available data and results based on 3340 primary biopsy recommendations between 1996 and 2004 at our breast centre was performed.

Results: Early detection has been improved by organizing the existing opportunistic screening through a true team approach, incorporating not only the clinic's specialties, but also the private radiologists and referring physicians. In 2004, our centre made the definitive diagnosis in 230 (67.6%) of the about 340 primary breast cancer cases occurring yearly in Tyrol with 62.2% being discovered by routine examination and 74.3% stemming from second opinion examinations. About 92.4% of our primary biopsies are performed minimally invasive with an overall 42.9% (1375 of 3205 cases) malignancy rate. Pathological TNM-staging was obtained in over 95% of women under 70 years of age. On average 55.3% (62.0% in 2004) of all discovered cancers were TNM-stage 1 or better lesions (76.2% in our routine patients). With an overall participation of about 75% of our target group (women over 34 years), it is women under the age of 50 years, who most consistently follow our recommendations, resulting in an above average rate of 58.5% TNM-stage 1 and better lesions for all discovered breast cancers (routine and symptomatic) in this group.

Conclusions: Opportunistic screening with a true team approach, combined with minimally invasive diagnosis and a strive for excellence have resulted in improved diagnosis, ever expanding patient and referring physician acceptance and an increase of positive prognostic factors, which eclipses the results of any published international mammography-screening program. A program as proposed by the ÖBIG would only represent one giant leap backwards for Tyrolean womankind!

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1. Introduction

Breast cancer is the most prevalent malignancy in women, affecting about one in ten in Tyrol, Austria. In the USA where the number now stands at one in eight women, breast cancer has become the leading single cause of death in women between 40 and 55 years of age. A feasibility study [1] for a mammography-screening program for Austria according to European Union guidelines commissioned by the Austrian

Ministry for Health and Women was recently published by the ÖBIG (Österreichs Bundesinstitut für Gesundheit). The three major goals for the program are cited as: increasing early detection of breast cancer, i.e. TNM-stage 1 or better disease; lowering the mortality by 30–35% and improving quality of life through more efficient methods. This is to be achieved by screening only women between the ages of 50 and 69 years once every 2 years.

Especially statements made about the poor status of breast cancer detection in Austria, led this author, as chairman of the “Workgroup for Early Breast Cancer Detection for Tyrol” [2], radiological head of the BrustGesundheitZentrumTirol® and Tyrolean delegate to this “Mammographie-Screening

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feasibility” project, to examine the current state of opportunistic breast cancer early detection in Tyrol, Austria.

Tyrol’s population, as that of the rest of Austria, has an excellent universal system of health and medical coverage. There is no organized mammography-screening program like Finland, Sweden or Canada, but improved patient and physician awareness and universal access have resulted in widespread so-called opportunistic screening (i.e. those women having the opportunity) similar to that which is most common in the United States. Official mammography-screening programs appear to have limited success in areas that offer alternate options. The Canadian screening programs have a patient compliance of only about 25% whereas, according to the 1998/1999 Canadian National Population Health Survey, 65% of women report having regular mammograms, indicating that over 60% of women having mammography prefer going to fee-for-service institutions [3].

A review and analysis of the current breast imaging practices in Tyrol is presented. Results from our breast centre based on 3440 biopsy recommendations and 1240 primary breast cancer cases between 1996 and 2004 are reviewed. The efficacy of our opportunistic breast cancer early detection concept is compared to international screening programs and our fulfillment of the stated ÖBIG goals is examined.

2. Materials and methods

All organized breast cancer detection programs definitely reduce breast cancer mortality [4]. In July 1998, the “Workgroup for Early Breast Cancer Detection for Tyrol” with representatives from the Tyrolean Health Ministry, the major Tyrolean Social Health Insurer (TGKK), the Tyrolean Medical Society (Tiroler Ärztekammer) and specialty representatives of gynecology, radiology and from the University of Innsbruck agreed upon breast cancer early detection recommendations. Tyrol has the entire necessary medical infrastructure in place, including adequate private radiologists, hospital departments, the university clinics and a patient and physician-accepted universal health care system. The goal was to have the maximum number of patients possible partake in regular breast cancer early detection within the bounds of this existing infrastructure. The recommendations included monthly breast self-examination, yearly examination by a physician and yearly mammography, if necessary with adjunctive breast ultrasound, beginning at age 35–40, every 2 years after 60 years of age. In addition ongoing patient information and enlightenment via the media and possibly direct mailings, official guidelines to the primary physicians for the recommended early detection of breast cancer and the development of a centralized database to monitor quality, compliance and results for all women. Due to the extremely restrictive Austria privacy laws, this last recommendation as well as direct mailings could not yet be implemented. Since most patients follow their physician’s recommendations, a very high patient compliance could be achieved by having the primary

physicians (general practitioners, gynecologists, internists) refer their patients to the private radiologists or clinics for yearly mammography and breast ultrasound as needed.

2.1. University-based referral centre

The diagnostic breast imaging service of the Radiology II Department of the University Hospital of Innsbruck was the seed that developed into Tyrol’s major breast cancer referral centre. Through a true team approach [5] we quickly developed a close and successful relationship with the in-house breast service as well as the in-house gynecological pathology section, both divisions of the Department of Obstetrics and Gynecology. After many basic changes and staff training, we began performing large core needle biopsies with ultrasound guidance [6]. Concurrently we organized weekly interdisciplinary patient conferences, which now also include radiation therapy, oncology, plastic surgery, nuclear medicine and nursing. Through these we were soon able to overcome the typical turf conflicts and convince our colleagues of the many advantages of large core needle biopsy. In the year 1996, only 49 (29.2%) of the 168 performed initial biopsies were performed as minimally invasive biopsies. By the year 2004 minimally invasive biopsies made up 92.4% (533 of 577).

In March 2003 as a result of the strictly defined structures and quality control, the diagnostic breast imaging section of the Department of Radiology II of the University of Innsbruck could be certified according to the ISO Norm 9001:2000 (No. 3075/0) standards. In conjunction with the Department of Obstetrics and Gynecology and as the BrustGesundheitZentrumTirol® we were subsequently certified in November 2003 (recertified January 2005) as the first Austrian (11th in Europe) breast cancer referral centre to fulfill all European Union requirements according to the German Cancer Society, the German Society for Senology and the European Society of Mastology (EUSOMA) guidelines as well as all national requirements.

2.2. Incorporation of the extramural physicians

At the same time we built up interconnections with the surrounding private radiologists, outlying hospitals and referring physicians. This was initially accomplished by routinely sending copies of reports of the patients they had examined and we had consulted upon, including the results of the biopsies we performed, thus supplying the private radiologists immediate feedback on lesions they had discovered, something that had rarely been done until then. We also set up various mammography meetings and other continuing education programs for them as well as for other referring physicians. Since many private physicians have a certain, not unfounded fear, that their patients will be appropriated by the university hospital, they are sometimes hesitant to refer them there unless absolutely necessary. After consulting on a patient, we specifically recommend the patient return to her original

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