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IS SCREENING FOR PROSTATIC CANCER JUSTIFIED?

Summary of the discussion

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Carcinoma of the prostate is in some countries of the Western World the most common cancer in men, and the second or third, in a few countries even the first cause of death from cancer. The disease has in the majority of cases a long natural history and a preclinical period during which it is detectable. These were the reasons for the initiation of a screening program for prostatic cancer in the Federal Republic of Germany in 1971, hoping to improve the early detection, to increase the survival rate and to reduce the mortality of this disease. The question raised in Germany and in other countries is whether such a screening program for carcinoma of the prostate is really justified. In this respect a number of questions have to be asked and, if relevant data are presently available, to be answered.

Does screening improve early detection of prostatic cancer?

Based on the data available this question can be answered positively.

What are the minimal requirements for an effective screening program? Is digital rectal examination (DRE) sufficient or have other methods, such as prostate specific antigen (PSA) or transrectal ultrasonography (TRUS) to be added?

Several non-controlled studies have shown that DRE alone leads to a detection rate of up to 1.5%. PSA and TRUS have been found to increase the detection rate of non-palpable prostate cancer almost twice. Thus, the addition of PSA and TRUS to DRE as screening tests appears potentially useful, whereas it obviously increases the cost of such a program considerably.

Which age group should be included in a screening program? At what time intervals should the screening tests be repeated?

In the German program every man above the age of 45 years is entitled to have a screening examination once a year. There is general agreement, however, that men under the age of 50–55 years have a fairly low incidence of prostate cancer, and men over the age of 70 years do not have too much to gain by the detection of a localized cancer since radical curative measures are not indicated in this older age group. On the other hand, even if the incidence of prostatic cancer in men under the age of 50–55 years is low, these patients might gain in particular by early detection and aggressive curative treatment such as radical prostatectomy. Annual screening appears to be a reasonable interval, even though 2-year intervals could be taken into consideration.

Does immediate adequate treatment following early detection of prostatic cancer really cure these patients?

There is at present no reliable method to individually predict whether a cancer of the prostate, detected at an early stage, will cause disease or death, or will remain silent for the rest of the patient's life. Thus, in a screening program we would need a test to differentiate between cancers with a highly malignant potential and those which are unlikely to cause harmful effects to the patients. So far,

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no reliable tests of such an order are available, histological grading and DNA ploidy studies included.

Finally the question arises whether or not the public is willing to bear the enormous cost of a large-scale screening program for cancer of the prostate.

This, of course, is essentially a political question, and therefore beyond the scope of our discussions at this conference.

From the medical standpoint, mortality and morbidity are to be considered the valid endpoints of a screening program. The only way to establish the value of such a program is by large-scale multicenter/national trials, even though some ethical problems may play a role when such studies are being organized. Initiatives to start such randomized, controlled trials are at present being taken in Europe by the EORTC and in the USA by the National Institute of Health. They will in due time hopefully supply the basis for making the right decision, whether screening for prostate cancer is justified.

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