

EXAMPLE

ESTIMATION OF THE EFFECT OF PROSTATE-SPECIFIC ANTIGEN SCREENING ON PROSTATE CANCER INCIDENCE AND SURVIVAL IN TARRAGONA

Alberto Ameijide (1), Marià Carulla (1), Joan Borràs (1,2), Araceli Jiménez (1), Laia Llauredó (1), Josep Lluís Piñol (1), Xavier Cardó (1), Jaume Galceran (1).

(1) Fundació Lliga per a la Investigació i Prevenció del Càncer (FUNCA), Reus, IISPV, Catalonia, Spain. (2). Departament de Medicina i Cirurgia, Universitat Rovira i Virgili, Reus, Catalonia, Spain.

Objectives

In the last decades, prostate cancer incidence has increased dramatically in developed countries. The main cause is the increase of detection rates as a result of the widespread use of prostate-specific antigen (PSA) screening from the early 90's.

Main objective: to estimate the additional number of men who were diagnosed with prostate cancer during the period 2000-2004 in Tarragona due to the use of the PSA test.

Other objectives: to estimate the overall percentage of patients overdiagnosed by the use of the PSA test, as well as the overdiagnosis rates in different age-groups and periods and to estimate the effects of overdiagnosis on 5-year relative survival rates for prostate cancer in each different periods of study.

Methods

Incidence data was provided by the Tarragona Cancer Registry. The study cohort included all invasive prostate tumours (ICD-10: C61) diagnosed between 1982 and 2004.

The period 1985-1989 was considered the baseline period and, for this period, age-specific incidence rates were estimated.

The annual percentage of change of incidence rates for the period 1982-1989 was calculated and for each age-group and calendar-year the expected incidence rates were estimated applying the APC to the expected incidence rates of each previous year.

Results

In the Tarragona province, the widespread use of PSA test caused 877 overdiagnosed prostate cancer men in the period 2000-2004.

By age, the proportion of overdiagnosed cases was higher the lower was the age of patients.

By periods, the proportion of overdiagnosed cases increased along the time, from 17% of cases overdiagnosed in 1990-1994 to 42.1% and 51.3% in 1995-1999 and 2000-2004 periods respectively.

Conclusions

As expected, overdiagnosis increased along the studied periods and was higher in the youngest age-groups. Probably, the major part of the observed improvement in global survival is due to a combined effect of overdiagnosis and lead time bias.

Preference

Oral presentation.