

Original Article

Male skin cancer incidence in Golestan province, Iran

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Abstract

Objective: To evaluate province-specific estimates of incidence in males by age groups for skin cancer in the Golestan province, Iran.

Methods: Data was collected from a cancer registry that was conducted by Health Deputy of Golestan province for a period of one year (2004). Age-specific rate and age-standardized incidence rate (ASR) were determined. Age-specific rate and age-standardized incidence rate (ASR) of skin cancer was compared with Mazandaran province and Iran. The age distribution was collected according to the following age strata: 0-4, 5-9, 10-14, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75-79, 80-84 and 85 above. Skin cancer data was identified and collected through 18 Pathology Laboratory centers, where the cases had been referred in the Golestan province.

Results: A total of 409 primary cancer cases were captured. From these 64 cases were skin cancer. ASR skin cancer incidence among males in Golestan province was: 13.23/100000. But skin cancer with the highest ASR (ASR: 161.90/100,000) among males were in the age group 80-84 years. The lowest incidence was in age 30-34 years. (ASR: 1.88/100,000).

Conclusion: The incidence of skin cancer in Golestan Province is rising especially in the age group 80-84 years. It is the highest incidence reported in the world (JPMA 59:287; 2009).

Introduction

Cancer is a serious public health problem in many countries of the world, imposing a large economical and psychological burden as well as loss of life and productivity.¹ A great amount of effort and money have been put in the fields of clinical, epidemiological, pharmacological, and biological research on cancer in the recent decades. Cancer is the third most common cause of death in Iran² and annually 30000 Iranians die of cancer. It is estimated that more than 70000 new cases of cancer are detected in the country and that the cancer incidence in the next decade will rise due to an increase in the elderly population of the country.³ Skin cancer is the most common form of human cancer. It is estimated that over 1 million new cases occur annually. The annual rates of all forms of skin cancer are increasing each year, representing a growing public concern. Skin cancer is the most common cancer in the United States, affecting more than 1,000,000 Americans every year. It accounts for more than 10,000 deaths annually,⁴ which represents approximately 4% of all cancer deaths. The incidence of skin cancer is rising faster than any other type of cancer.⁵ One in 5 Americans and one in 3 Caucasians will develop skin cancer in the course of a lifetime. More than 20 people die each day from skin cancer, primarily melanoma.⁶ One in 59 men and women will be diagnosed with melanoma during their lifetime, Skin cancer is the foremost cancer in men over age of 50 years, ahead of prostate, lung and colon cancer.⁴ In this study we

tried to evaluate province-specific estimates of incidence by age groups for skin cancer in the year 2004.

Methods

The data used in this study were collected in a cancer registry that was conducted by Health Deputy of Golestan province in IRAN for a period of 1 year (2004). Golestan province is located in north of Iran, in the south east of Caspian Sea. The registered male population of the Golestan province was 799832. The collected data included population distribution by gender (male) and age, divided into five-year intervals. The age distribution was collected according to the following age strata: 0-4, 5-9, 10-14, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75-79, 80-84 and 85 above. Skin cancer data was identified and collected through the 18 Pathology Laboratory centers (where male population was referred) in the Golestan province. The newly diagnosed cases were detected by histopathological, and cytological examination. These were then sent to the Cancer Registry Office of the province and to the registry unit of the Health Deputy. Age-specific rates, annual age-adjusted rates (ASRs) per 100,000 person-years were calculated using the direct methods of standardization to the world population. The data were summarized in a data sheet and coded using the ICD-O. The data were recorded at different levels due to a need for correct registration. This has been done by iarcrgtools-203 software, because it could control the probable problems due to registration at different levels.

Results

A total of 409 cases with cancer from all sites were captured during the one year period, 2004. From these 64 cases were of skin cancer. The incidence rates varied by age. The overall skin cancer incidence was ASR :13.23/100000). The highest skin cancer incidence among males in Golestan province was in the age group 80-84 years (ASR: 161.90/100,000). The skin cancer incidence according to age specific was as follow: in ages (years) 0-4, 5-9, 10-14 , 15-19 , 20-24 and 25-29 no skin cancer incidence(ASR: 0.00/100,000), in age 30-34 (ASR: 1.88/100,000), in age 35-39 (ASR: 6.22/100,000), in age 40-44 (ASR: 4.44/100,000), in age 45-49 (ASR: 13.22/100,000), in ages 50-54 (ASR: 41.43/100,000), 55-59(ASR: 70.04/100,000), 60-64 (ASR:58.39/100,000), 65-69 (ASR: 13.73/100,000), 70-74 (ASR: 87.80/100,000), 75-79 (ASR: 106.43/100,000), 80-84 (ASR: 161.90/100,000) and in age above 85 years (ASR: 87.49/100,000). The incidence of skin cancer in age 80-84 (ASR: 161.90/100,000) has risen sharply and in the age group 30-34 years incidence of skin cancer was the lowest (ASR: 1.88/100,000).

Discussion

This study presents data on skin cancer and which is one of the most common cancers in the Golestan province among males. The registry showed that the annual ASR for skin cancer was 13.23 per 100000 population among males. Skin cancer is the most common malignancy in man. The incidence of skin cancer is increasing at an alarming rate. In the recent decades, a sustained increase in the worldwide incidence of skin cancer has been observed and Golestan province is not an exception. The skin cancer incidence among males in Mazandaran province, located in the south of Caspian Sea, neighbouring Golestan province, was ASR: 13.21/100000. Comparison of skin cancer incidence among males with those of Cancer Registry center in Iran showed that skin cancer incidence in Iran was ASR: 17/100000. The results of this study are in agreement with incidence of skin cancer in Mazandaran province.² Comparison of skin cancer incidence with those of Cancer Registry center in Iran showed that skin cancer incidence in Iran is higher than two provinces. Comparison of these data with those of Mazandaran province Cancer Registry reveals that the highest incidence of skin cancer in age 80-84 in Golestan was ASR: 161.90/100,000) among males, while in Mazandaran province the highest incidence of skin cancer in age 80-84 was ASR: 208.99/100,000. Age related comparison of these data in two provinces showed that

the cancer incidence in two provinces are the same in age 80-84. The Mazandaran province had a higher age specific rate of skin cancer in age 80-84 (ASR: 208.99 /100,000) when compared with those of Golestan province (ASR: 161.90 /100,000). The overall cancer incidence in Golestan and Mazandaran provinces for skin cancer is almost the same. High rates of males skin cancer incidence are found in Australia/New Zealand, North America, and northern Europe (ASR: 37.7, 16.4 and 8.4/100000) but low incidence of skin cancer is observed in China (ASR: 0.2/100000) and Japan and South Central Asia (ASR:0.4/100000) among males.⁷ Compared with most cancers skin cancer tends to grow slowly. Comparison of the ASR for skin cancer (age specific) among males in Golestan province with those of skin cancer worldwide show that the Golestan province is a higher-risk area than other places. In this study, we found that the incidence of skin cancer rises from age 30 years age (ASR: 1.88/100,000) and is highest in 80-84 years age (ASR: 161.90/100,000). The early diagnosis of skin cancer maybe helps to prevent the progress of this malignancy. A number of risk factors have been identified for skin cancer. The most important risk factor is sun exposure. More than 90 percent of all skin cancers are caused by sun exposure. A person's risk for skin cancer doubles if he or she has had five or more sun burns.⁸ Ultraviolet (UV) radiation from the sun is the main cause of skin cancer. Most ultraviolet radiation comes from sunlight. People who live in areas that get high levels of UV radiation from the sun are more likely to get skin cancer. The sun's rays are most harmful during the hours of 10 a.m. to 2 p.m. standard time or from 11 a.m. to 3 p.m. daylight.⁹ Comparison of the ASR for skin cancer among males in Golestan province with those of skin cancer worldwide show that the Golestan province is a higher-risk area than other places. The incidence of skin cancer rises from the age of 30 years (ASR: 1.88/100,000) and is highest in the 80-84 years age (ASR: 161.90/100,000). The work time in this area is from 7.30 a.m. to 3.30 p.m. High levels of UV radiation from the sun may be the main cause of skin cancer in this region. People who spend a lot of time outdoors are exposed to more UV light and are at higher risk of getting skin cancer in this area. Farm workers, gardeners and building site workers (working under unsafe conditions) would all be at increased risk for skin cancer. The risk of developing skin cancer increases with age, primarily because many skin cancers develop slowly. The damage that occurs during childhood or adolescence may not become apparent until middle age. Skin cancer is not limited to

older people. In Golestan area, skin cancer is seen to start from 30 years age onwards, and may be the main cause of cancer deaths.

Golestan province can be compared to the other regions of the world with a high incidence of skin cancer. Male gender and increase in age are the high risk factors in Golestan, for acquiring skin cancer.

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References

1. Whelan SL, Parkin DM, Masuyer E. Trends in Cancer Incidence and Mortality. Lyon; France: IARC Scientific Publications, 1993.
2. Naghavi M. Death in eighteen provinces of Iran. Annual Report of Iranian Ministry of Health and Medical Education 2001; 1:127.
3. Iranian Annual of National Cancer Registration Report 2004. Center for Disease control noncommunicable deputy cancer control office, 2004; 51.
4. National Cancer Institute, US National Institutes of Health. Surveillance, Epidemiology, and End Results (SEER) Program. (Online 2007) Available from URL: <http://www.seer.cancer.gov>.
5. American Cancer Society: Cancer Facts and Figures 2006. Atlanta: American Cancer Society, 2006.
6. American Cancer Society: Cancer Facts and Figures 2007. Atlanta: American Cancer Society, 2007.
7. Parkin DM, Bray F, Ferlay J, Pisani P. Global Cancer Statistics, 2002. *CA Cancer J Clin* 2005; 55:74-108.
8. Pfahlberg A, Kolmel KF, Gefeller O. Adult vs childhood susceptibility to melanoma. Is there a difference? *Arch Dermatol* 2002; 138:1234-5.
9. Schofield MJ. Solar protection issues for schools: policy, practice and recommendations. *Aust J Public Health* 1991; 15:135-41.