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REVIEW

Epidemiology of oral cancer

Epidemiología del Cáncer Bucal

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ABSTRACT

Oral cancer is one of the top ten locations of cancer incidence in the world and in Cuba. It is the most visible and the one that most aesthetically and functionally mutilates the patient, affecting them psychologically and having repercussions on their family and social environment. The objective was to describe the epidemiology of oral cancer. To develop this research, theoretical methods were used: analytical-synthetic and historical-logical analysis, in addition to the empirical method of documentary analysis. 20 bibliographies were selected. The behavior of this pathology varies between countries, influencing the way and lifestyle, which is one of the determinants of health, with smoking being the fundamental risk factor. It is more common in people over 60 years of age and in men in Cuba, where there is an organized program for the early detection of this cancer, and despite the promotion and prevention actions implemented, it continues to increase.

Keywords: Oral Cancer; Epidemiology; Risk Factor.

RESUMEN

El cáncer bucal es una de las diez primeras localizaciones de incidencia del cáncer en el mundo y en Cuba. Es el más visible y el que más mutila estética y funcionalmente al paciente, afectándolo psicológicamente y repercutiendo en su entorno familiar y social. Se planteó como objetivo: describir la epidemiología del cáncer bucal. Para el desarrollo de esta investigación se utilizaron los métodos teóricos: analítico-sintético y análisis histórico-lógico, además del método empírico de análisis documental. Se seleccionaron 20 bibliografías. El comportamiento de esta patología varía entre los países, influyendo el modo y estilo de vida que es una de las determinantes de salud, siendo el tabaquismo el factor de riesgo fundamental. Es más frecuente en personas mayores de 60 años y en el sexo masculino en Cuba, donde existe un programa organizado para la detección precoz de este cáncer, y a pesar de las acciones de promoción y prevención implementadas, sigue en aumento.

Palabras clave: Cáncer Bucal; Epidemiología; Factor de Riesgo.

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INTRODUCTION

Health is one of the most precious goods of humanity, an expression of social development, so all people must demand the right to it and assume the duty of integration for its care. As health is a complex and multi-causal system, the will to do, with efforts by the different health sciences and social actors, is essential for the well-being of all.

According to the World Health Organization (WHO) in 1978, premalignant states are a generalized condition or disease that does not necessarily alter the appearance of the mucosa but may be associated with a significantly increased risk of developing cancer. A precancerous lesion is a morphologically altered tissue in which oral cancer may occur more readily than in equivalent normal-appearing tissue. It is reversible, and among these are erythroplasia, leukoplakia, and inverted smoker's palate.[1,2]

Santana Garay defines erythroplasia as isolated, well-defined plaques with a red, velvety surface. At the Uppsala seminar in 1994, they assigned it to oral mucosal lesions that present red areas and cannot be diagnosed as any other definable lesion. Researchers now recognize that erythroplasia is a clinical entity and a mucosal lesion, which histologically, in a high percentage of cases, evidences epithelial changes ranging from moderate dysplasia to carcinoma in situ and even invasive carcinoma.[3]

At the workshop coordinated by the WHO Collaborating Centre for Cancer and Precancer held in London in 2005, leukoplakia was considered as a whitish spot or plaque that cannot be characterized, clinically or histopathologically, as another disease.[4] In the authors' opinion, this is a definition by exclusion, but it is the most universally accepted.

In Budapest, during the XIV International Cancer Congress, at a meeting of experts, it was suggested that the following be added to the above definition: "and not associated with any other physical or chemical cause, except tobacco use".[1] There are two types of leukoplakia: true leukoplakia, caused by tobacco use, and idiopathic leukoplakia, where this risk factor is not associated with the pathology. Leukoplakia is the most frequent premalignant lesion. It is a condition that can be found in practically all ages of life, but it is more frequent in older adults and the elderly.[5]

In Cuba, the most commonly used nomenclature is that of Santana Garay, who classifies premalignant lesions into diffuse, focal keratosis and leukoplakia. Hyperkeratosis is an essential histopathologic feature to which it owes its whitish appearance, but epithelial dysplasia is used to establish its degree of pre-malignancy.[6]

An inverted smoker's palate is a peculiar form of keratosis that mainly affects the palate. It is caused by cigarette smoking with the lighted portion inside the mouth.[7]

References to cancer have been found in ancient manuscripts and fossilized bone tumors of human mummies in ancient Egypt. The first person to speak of this pathology was Hippocrates; the term derives from the Latin crab since the tumor adheres to everything it grabs with the same obstinacy as a crab. The term carcinoma refers to cancer derived from epithelial cells, which currently accounts for 90 % of cancer cases.[8]

Oral cancer is a general term that refers to neoplasms that originate in oral tissues. The primary sites of origin of oral cancers are the submucosal tissues, epithelium, and minor salivary glands. Other common sites of oral carcinoma are dental alveoli, tongue, buccal mucosa, and areas of the gingivobuccal sulcus.[9]

According to the Manual of the American Cancer Society, it is defined as a neoplastic process of polycellular and locotisular origin characterized by cytologic dedifferentiation, autonomy of local and general homeostasis, infiltrative properties with cytolysis of neighboring normal tissue, and capacity for metastasis to other regions of the organism.[10]

Oral cancer constitutes one of the greatest problems facing humanity, not only in the field of public health but also in science in general. It is a malignant neoplasm with aggressive behavior; it is considered a worldwide health problem, capable of producing anatomical and physiological sequelae in those who suffer from it and, eventually, death. It is the most visible and the one that most mutilates the patient from the aesthetic and functional point of view, with difficulties in swallowing, seeing, smelling, and hearing; it produces a high degree of deformities, which sometimes turn the affected person into an outcast and repulsive being for society.

A risk factor is an attribute or characteristic that confers to the individual a variable degree of susceptibility to contracting a disease or health alteration. The main risk factors associated with the development of oral cancer are smoking, alcoholism, ingestion of hot, acidic, and spicy foods, ill-fitting dentures, stress, poor oral hygiene, and constant exposure to the sun,[11] as well as infection by the human papillomavirus (HPV). Both internationally and nationally, morbimortality is increasing, so the authors set themselves the objective of describing the epidemiology of oral cancer.

DEVELOPMENT

In recent decades, developed countries have observed an increase in the relative and absolute values of chronic non-communicable diseases due to causal factors that uncontrol the regulatory mechanisms of cell growth, which currently constitutes a health problem. Among these diseases is cancer.[12]

The economic and sanitary consequences make it an important health problem; moreover, with the increase in risk factors associated with its appearance and the aging of the population, it is thought that, if control measures are not taken, there will be an increase in its incidence and mortality.[13]

Every year, 9 000 000 people in the world fall ill with cancer, and some 5 000 000 die from it; if this trend continues, it will be considered the leading cause of death in this century. It is estimated that there are currently around 14 million cancer patients; by 2040, more than 30 million people will be affected by this disease. Among all types of cancer, oral cancer is the sixth most frequent cause of death in the world and Cuba. Every year, between 20 000 and 25 000 new cases appear worldwide, of which 13,000 to 14 000 patients die.[14]

Oral cancer is a disease that affects the oral mucosa, and being destructive affects the quality of life of human beings. It produces permanent sequelae in the stomatognathic apparatus capable of affecting the patient psychologically, affecting his family and social

environment, and creating difficulties for various functions such as chewing and language.

It represents 2 % of all cancers and almost 30 % of all head and neck tumors. Ninety percent of oral cancers are squamous cell or epidermoid carcinomas; the remaining 10 % are salivary gland tumors, melanomas, sarcomas, basal cell carcinomas, lymphomas, odontogenic tumors, and metastatic lesions.[14]

Worldwide, an estimated 476 125 people were diagnosed with oral and oropharyngeal cancer in 2022. In that same year, in the United States alone, about 54 000 new cases of oral and oropharyngeal cancer were diagnosed, affecting males relative to females in a 2:1 ratio, mainly whites. Eighty percent of the cases occurred in people over 55 years of age. Most cases are related to smoking, alcoholism, and HPV type 16 infection. However, the highest incidence rates of oral cavity cancer for that period were reported in Canada, Australia, Pakistan, Brazil, India, and France, in some cases associated with the ingestion of concoctions. In contrast, the lowest rates were reported in Japan and black populations in the United States. In Latin America, the male sex has a higher incidence, with minimal worldwide differences and reports that place it among the ten most frequent types of cancer in general.[15]

According to the Cuban Health Statistical Yearbook, in 2018, there were 1577 reported cases of lip, oral cavity, and pharynx cancer in the male sex and 459 in the female sex, of which 894 and 336 respectively were over 60 years of age;[16] that year there were 679 male and 147 female deaths, of which 447 and 120 respectively were over 60 years of age.[17] In 2019, there were 1697 new cases in the male sex, where 1006 patients were older than 60 years; on the other hand, there were 323 new females affected by this pathology, all were over the sixth decade of life;[18] that year 722 males and 171 females died, prevailing those older than 60 years with 457 and 141 deaths respectively.[19]

In 2020, there were 689 male and 210 female deaths from this cause, of which 443 and 177, respectively, were over 60 years of age.[20] In 2021, 729 male and 159 female deaths were reported, mainly in senescence, with 489 and 126 deaths, respectively.[16] In 2022, 776 men and 191 women died, of whom 519 and 157, respectively, were over 60 years of age.[18] This corroborates the need for preventive work from an early age to ensure quality of life during the aging process.[11]

According to the registry of patients treated in the Maxillofacial Surgery Service of the General Teaching Hospital ¨Héroes del Baire¨ of the Isle of Youth, in 2017, there were 8 positive and 2 deaths; in 2018, 8 and 5, respectively; in 2019, 4 and 5; in 2020, 7 and 4.[13] The fundamental anatomical locations of the lesions were in the tongue, lips, floor of the mouth, soft palate, uvula, alveolar ridge, submandibular and parotid gland. The main types were basal cell, squamous, and epidermoid keratinizing carcinomas, adenoid cystic, mucoepidermoid, warty, adenocarcinoma, and carcinoma in situ.

Cuba has had a National Program for the Early Detection of Oral Cancer (PDCB) since 1986, unique in the world, which has managed to reduce by 15 % the mortality due to this cause in the last 20 years, based on the examination of the oral complex to 100 % of the subjects of 15 years and older.The stomatologist must carry it out in a disciplinary manner due to the fact that the appearance of premalignant and malignant lesions in patients under 60 years of age is more and more common, regardless of their educational level.[11]

This program defines the training in self-examination of the oral complex so that the subject himself explores his mouth and lesions can be detected in incipient stages. It is considered essential that examinations be performed routinely by both stomatologists and general practitioners since early detection of oral cancer is an obligation of any health professional, which requires adequate preparation.

Current morbimortality patterns are closely related to people's behaviors and lifestyles. Health Education is a powerful tool for the professional work in Primary Health Care.[11]

The incidence of premalignant lesions and oral cancer has not decreased. Despite the promotion and prevention measures implemented, the population has yet to be made aware of the main risk factors associated with the appearance of these pathologies and the measures to prevent them, with the aim of changing lifestyles to healthier ones. If these habits are not effectively combated, the figures will rise considerably, and the most significant increase in incidence will be experienced in the poorest developed countries.

If cancer is detected early, treatment will be indicated with curative intent. If the population is educated to detect the early signs and symptoms of the disease, then medical care will be more effective.

Community education is the ideal method to raise the level of knowledge and risk perception about premalignant lesions and oral cancer. Primary prevention should, in the first place, motivate people, mainly young people, and adults, through attractive proposals that achieve the massive and protagonist participation of patients, urging them not to start practicing inadequate health habits; secondly, those who already practice the habit should be encouraged to abandon it and, in the last case, to modify or reduce these habits. The practice of the stomatological profession, more than a way of life, is a profound sense of life in which one should not limit oneself to curing diseases but prevent them by applying the potential of stomatology and other related sciences.[11]

The authors consider that, at present, health promotion and disease prevention occupy a top place in the field of stomatology, so it is necessary to evaluate and renew the programs so that they are increasingly preventive and educational, with the aim of improving the quality of life of the population.

CONCLUSIONS

Oral cancer is a health problem, being one of the top ten cancer incidence sites in the world and Cuba. Its behavior varies among countries and is influenced by lifestyle, which is one of the determinants of health, with smoking being the fundamental risk factor. It is more frequent in people over 60 years of age and in the male sex in Cuba. In spite of promotion and prevention actions, it continues to increase.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHORSHIP CONTRIBUTION

Conceptualization: Yoneisy Abraham-Millán, Rosa María Montano-Silva, Reynier Ruiz-Salazar.
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