Incidence and Pattern of Thyroid Malignancy in Wadi Al-Dawasir Region of Saudi Arabia

Abstract

Objectives: To estimate the incidence and examine the pattern of thyroid malignancy, assess the magnitude of the disease, methods of management and ways of improvement to ease the burden on patients residing in the region of Wadi Al-Dawasir in the south of the Kingdom of Saudi Arabia.

Methods: Retrospective cohort study from January 2001 to December 2008 which included all patients with goiter who underwent total thyroidectomy at Armed Forces Hospital, Wadi Al-Dawasir, Kingdom of Saudi Arabia and were followed regularly until end of July 2014.

Results: There were 107 thyroidectomy cases during the study period, eight of them proved to be malignant. The malignant cases were all females who received radioactive iodine following their surgery and were followed every 6 months until the end of July 2014.

Conclusions: The study showed that the incidence of malignancy among patients with goiter treated surgically at Armed Forces Hospital, Wadi Al-Dawasir, is less than other regions of Saudi Arabia while the average age of patients is younger than that in other areas. Due to remoteness of the region, a full oncology service is needed to lessen the burden on patients seeking cancer treatment.

Keywords:

Introduction

The incidence rates of cancer of the thyroid gland in the Kingdom of Saudi Arabia has been increased exponentially over the past two decades [1,2]. The incidence of this disease peaks in the third and fourth decades of life. The literature contains reports on the incidences of thyroid carcinoma in different parts of Saudi Arabia [3, 4, 5, 6, 7].

The region of Wadi Al-Dawasir is situated in the southwest of the Kingdom at the edge of the area geographically known as the Empty Quarter. This retrospective study was conducted at the Armed Forces Hospital in Wadi Al-Dawasir. It is a secondary referral hospital serving military personnel, their families and eligible members of the civilian population.

Methods

A retrospective cohort study started following the approval of the Ethics and Research committee at the hospital. Medical records of patients who underwent thyroidectomy between January 2001 and December 2008 were reviewed. The clinical presentations, the management, laboratory and histopathological reports, and the clinical follow-up course of these cases until end of July 2014 were obtained. During the periodic follow-up, ultrasonography and computed tomography (CT) scan used to evaluate soft tissue extension of thyroid carcinoma into the neck, trachea, or esophagus and to assess metastases to the cervical lymph nodes.

Results

There were 107 thyroidectomy cases performed during the period of the study, 99 were females and 8 were males (a ratio of 1F:0.08M). Their average age was 35.7yrs (range 16-65 yrs). Prior to surgery, all cases of thyroid swellings had ultrasound-guided fine needle aspiration biopsy in which six specimens reported the presence of malignant changes in the thyroid. Postoperatively, however, histopathology of specimens demonstrated the presence of malignant changes in 8 cases, 5 of them were papillary and 3 were follicular carcinoma. The average age of the patients with malignant specimens was 34.9 years (range: 37-51 years). The histopathological diagnosis of the thyroid papillary carcinoma followed strict criteria of cytological features and is defined according to World Health Organization classification [8]. When the cytological features of papillary carcinoma were lacking, the diagnosis of other carcinomas was made and confirmed by immunohistochemical staining as

Ali S Al-Qahtani, FKSU, JB, FIS
Qua Associate Professor of ENT and Head & Neck Surgery
Consultant ENT/Head & Neck Surgeon
Department of Ear, Nose, Throat and Head & Neck Surgery
College of Medicine
King Khalid University
Abha, Saudi Arabia

Address for Correspondence:
Dr Ali S. Al-Qahtani
Vice Dean for Academic Development and Quality
College of Medicine
King Khalid University
P. O. Box 3877
Abha 61481, Saudi Arabia
Tel: +966 17 2417751
Fax: +966 17 2289291
Mobile: +966 504433309
E-mail: dralient@yahoo.com
appropriate [9].

Patients with thyroid malignancy were further investigated by ultrasonography and computed tomography (CT) scan of the neck, trachea, and esophagus in addition to the cervical lymph nodes to detect and assess the presence of any metastasis. They were all referred to Oncology Department at Armed Forces Hospital in Riyadh to receive radioactive iodine. These cases were followed up at our hospital every 6 months for 5 years, thereafter annually. Follow-up consisted of history taking, neck examination, chest x-ray, and bone scanning. There was no evidence of metastasis in all cases whether locally nor remotely.

Discussion
Thyroid carcinoma accounts for 5.10.4% of total malignancy across Saudi Arabia [4] and it is the second most common carcinoma among Saudi women [5,10]. Fine needle aspiration (FNA) is an accepted diagnostic procedure in the management of patients with thyroid nodules, although in about 10-30% of the cases cytology is indeterminate. FNA was performed on all cases of thyroid swellings in the study [11, 12, 13].

Thyroid malignancies are divided into papillary, follicular, medullary, and anaplastic carcinomas, primary thyroid lymphomas, and primary thyroid sarcomas. Papillary thyroid carcinoma accounts for 80% of all thyroid neoplasms, while the second most common follicular thyroid carcinoma represents approximately 10% of cases. Medullary thyroid carcinoma represents 5.10% of the neoplasms. Anaplastic carcinomas account for 1.2%. Primary lymphomas and sarcomas are rare [4,14].

Several thyroid lesions can present with an architecture mimicking papillary thyroid cancer and pose diagnostic problem. These lesions may include chronic lymphocytic thyroiditis, benign papillary hyperplastic lesions, hyalinizing trabecular neoplasms, and also the post-fine needle aspirate tissue changes. Therefore, careful identification of the true complex branching nature of papillary thyroid carcinoma is essential and had been taken when reporting on thyroid specimens [15,16,17,18].

In this study, the incidence of thyroid carcinoma was 1.1% among thyroidectomies which is significantly lower than that reported in other regions of Saudi Arabia. The average age of the patients with proven thyroid malignancy was also less compared with that in other studies [9,10].

There are no facilities for radioactive iodine or oncology service in the region of Wadi Al-Dawasir and thyroidectomy patients have to travel far away for further investigations and for receiving the radioactive iodine. With the ever steady increase in the number of the region’s population, it is overdue to establish additional healthcare services to ease the burden on the patients.

References


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