Carcinoma of the Thyroid at Harare Histopathology Laboratory (Zimbabwe)

N K NKANZA

SUMMARY

The carcinoma of the thyroid gland seen at Harare Histopathology Laboratory (Zimbabwe) has been reviewed and analysed. There was a male to female ratio of 1:4. The commonest histological type of tumour was follicular carcinoma (70%). There were equal numbers of papillary and anaplastic types (14% each). Only two cases of medullary carcinoma were found, one of these being in a twelve-year-old female patient. The finding of a high occurance of follicular carcinoma is consistent with Zimbabwe being a country where endemic goitre is common.

N K NKANZA,
Department of Histopathology
University of Zimbabwe Medical School

Correspondence to:
N K NKANZA
Department of Histopathology
P.O. Box A 178
AVONDALE - Harare
Zimbabwe

INTRODUCTION

Carcinoma of the thyroid gland has been reported to show variations in incidence in different parts of the world[1]. Reports also suggest differences in the histological types of the tumour seen in different areas[2,3,4,5]. There has been suggestion that these differences may be a reflection of differing aetiological factors. Some observations indicate for example that there is a high proportion of follicular carcinoma in areas of endemic goitre but in places such as Ireland and Hawaii where endemic goitre is rare, papillary carcinoma is proportionally more frequent[2,5]. Carcinoma of the thyroid is also said to be more common in thyroids which have been radiated especially if this radiation has been in childhood[5].

In Zimbabwe endemic goitre is common and previous reports have commented on this and have shown that in Zimbabwe follicular carcinoma is the commonest thyroid malignant tumour[6].

This study was undertaken to see if carcinoma of the thyroid in Zimbabwe has changed and if there are any similarities or differences as compared with this lesion elsewhere.

MATERIALS AND METHODS

Harare Histopathology Department is one of the two Histopathology departments servicing Government and Mission hospitals in the country. It handles over 15 000 specimens annually out of a total of about 20 000 histopathology specimens that the two Histopathology Departments in Zimbabwe handle a year.

Specimens are sent to the laboratory from hospitals in 10% formal-saline. These are then handled in the usual manner in the laboratory to produce 5 um slides.

Records of histology reports are filed in the laboratories. The reports covering the period January 1985 to December 1987 were searched for all diagnoses of carcinoma of the thyroid at Harare Histopathology laboratory. The histology slides of these reports were retrieved and reviewed by the author to confirm the diagnoses. Where the diagnosis was in doubt more sections were examined from the blocks. Most of the specimens had in the region of five to eight blocks taken and examined.

With regard to follicular carcinoma the diagnosis

was only made if undoubted evidence of vascular invasion was present. In some cases the Elastic von Gieson special stain was used to confirm vascular invasion. Cases where only capsular invasion was present were not accepted in this series as follicular carcinoma. All cases reviewed were biopsies from the thyroid gland or resections of the gland. None of these cases were therefore diagnosed on the presence of metasteses.

The tumours were histologically classified into different types using WHO Classification.

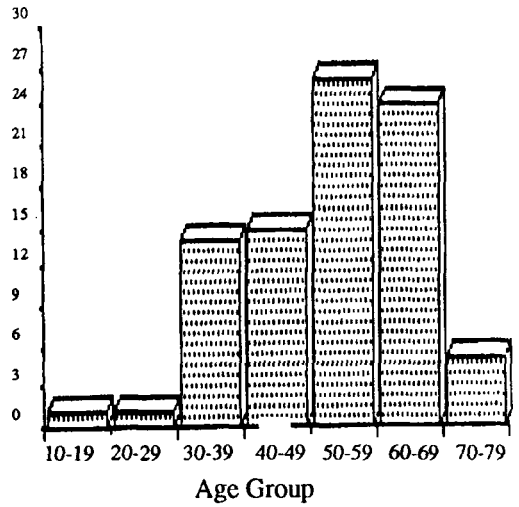
RESULTS

There were 86 carcinomas of the thyroid in the three year period reviewed.

Sex Distribution

There were 69 females (80%) as opposed to 17 males (17%) giving a male to female ratio of 1:4.

(Fig1)
Thyroid Cancer Age Distribution



There was an increasing number of patients with a carcinoma of the thyroid with increasing age. Most of the patients however were between the ages of 50 and 70 years. The youngest patient was aged 12 years. This patient had a medullary carcinoma of the thyroid gland.

(Table 1)
Histological Tumour Types

The following were the histological types of tumours seen:

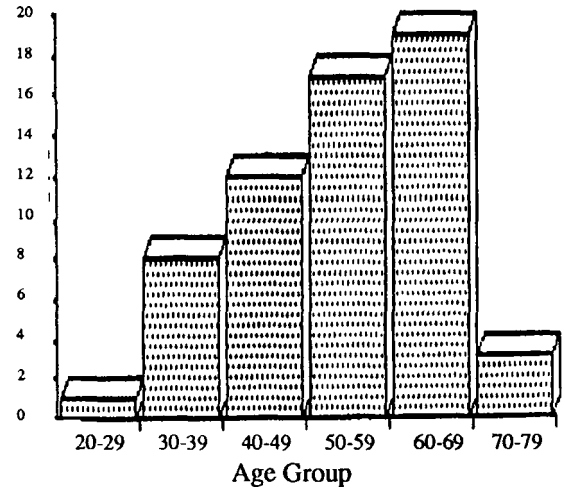
Type	Number	%
Follicular carcinoma	60	70
Papillary carcinoma	12	14
Anaplastic carcinoma	12	14
Medullary carcinoma	2	2
TOTAL	86	100

Follicular carcinomas were more than twice as common as all the tumours combined.

Follicular Carcinoma

The tumour which accounted for 70% of all the thyroid tumours (Table 1) showed a gradual increase in numbers with increasing age, the majority of patients being between the ages of 60 to 69 years (Fig 2). The male to female ratio in this group of patients was 1:4 with 12 males and 48 females.

(Fig 2)
Follicular Carcinoma
Age Distribution



Papillary Carcinoma

There were 12 patients with papillary carcinoma of

which nine were females and three males - giving a male to female ratio of 1:3. This tumour showed an age peak occurance between 30 and 39 and also between 50 and 59 years.

Anaplastic Carcinoma

There were 12 cases of anaplastic carcinoma. Ten of these were in females giving a male to female ratio of 1:5. One of these cases of anaplastic carcinoma was a spindle shaped carcinoma and another tumour was of the giant cell type. Most of the tumours of the anaplastic type were between the ages of 50 and 69 years.

Medullary Carcinoma

There were only two patients with this histological type of tumour. Both were females and were aged 12 years and 43 years respectively.

DISCUSSION

The female preponderance of thyroid cancer at the Harare Histopathology Laboratory is in accord with reports from other countries [2,3,8,9]. Our findings at this laboratory confirm the findings of other workers[2,3,5] which show that in goitre endemic areas follicular carcinoma tends to predominate. That goitre is endemic in Zimbabwe has been shown by the study by Grave and Mills[6].

Kungu[9] and Gitau[10] in Kenya reported figures of up to 55% of their cases of thyroid cancer to be of the follicular type. In this study follicular carcinoma made up to 70% of all the thyroid carcinomas. This high proportion of follicular carcinomas may be a reflection of a more severe iodine lack in our population or indeed a reflection of some aetiological differences for this tumour in the different populations.

Papillary carcinoma only made up 14% of the thyroid cancer in this study which is in contrast to the reports from Nigeria by Anidi[8] who found in Enugu a near equal occurance of follicular and papillary carcinoma. The percentage of papillary carcinoma in this study is also much lower than the nearly 27% found by Kungu[9] in Kenya. It has been said that papillary carcinoma tends to predominate in iodine rich areas[2]. The finding of a low percentage of papillary carcinoma in this study is therefore to be expected as this is a goitre endemic area.

Anaplastic carcinoma has been said to be common in goitre endemic areas. In this study only 14% of the tumours were of an anaplastic type. Other studies from Africa have also reported a low anaplastic carcinoma[8,9]. The majority of our patients with the anaplastic type of tumour (70%) were over the age of 50 years - a finding which has also been commented on in the past by other workers[11].

Medullary carcinomas are on the whole rare and in this study they made up only 2% of the cases. It is much lower than the 12,7% of medullary carcinomas found in Kenya by Kungu[9]. One of the patients with this type of tumour in this study was a twelve-year-old girl. Although family records were lacking from our files we feel that this was most likely the famalial type of tumour.

The other tumours such as lymphomas that may arise in the thyroid gland were not encountered in this series.

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