Frequency of Malignancy in Solitary Thyroid Nodule in Bir hospital.

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ABSTRACT

INTRODUCTION: Solitary thyroid nodule is the commonest endocrine problem worldwide. Clinical assessment with identification of risk factors for malignancy remains the fundamental basis for the selection of patients for surgery.

METHODS: This is a prospective hospital based study, In this study 50 patients with solitary thyroid nodule were studied.

RESULTS: Out of 50 patients 14 were male and 36 were female. Male female ratio was 1:2.6. No geographical preponderance is seen in this study. The frequency of malignancy in solitary thyroid nodule was 26%. Among malignancies papillary carcinoma was found to be the commonest.

CONCLUSION: The frequency of malignancy in solitary thyroid nodule in this study was 26%. Among the malignancies papillary carcinoma was the most common (76.9%).

KEY WORDS: Solitary thyroid nodule, Papillary carcinoma.

INTRODUCTION:

Thyroid diseases are quite common and may present as simple goiter toxic goiter, thyroiditis and nodular goiter. Nodular thyroid diseases manifested by one or more nodules. There may be solitary within a normal thyroid gland or dominant within a multi-nodular goiter.

The solitary thyroid nodule is defined as a palpably discrete swelling within an otherwise apparently normal gland.

The thyroid nodule is probably one of the commonest endocrine problem in the world. The prevalence of thyroid nodule depend on the population studied. Nodules are usually multiple forming a multinodular goiter, occasionally only one macroscopic nodule is found.

Palpable solitary thyroid nodules occur in 4-7% of the population but nodules found incidentally on ultrasononography suggest a prevalence of 19-67%. In Framingham study, the prevalence of palpable thyroid nodule in a population of 5127 aged 30 to 59 years were found to be 4.2% of the sample, 6.4% in females and 1.5% in males.

In a survey conducted in 477 middle aged women in Malmo the prevalence of palpable solitary thyroid nodule was 6.5%. In the united states clinically apparent nodule are present in 4-7.5% of adult population and more common in women than men. According to Thyroid clinic Bangabandhu Sheikh Mujib medical University 33% of patients were solitary thyroid nodules.

Solitary thyroid nodule is usually a benign lesion however in greater proportions of patients the concern relates to the potential risk of malignancy within such a nodule. So the critical issue in the evaluation of a solitary thyroid nodule is to determine whether it is benign or malignant. Various studies demonstrated that the majority of thyroid nodules were detected as benign, cases upto 5-20% found to be true malignant lesions. Nodules in the thyroid gland are important for their malignant potential.

Clinical assessment with identification of risk factors for malignancy remains the fundamental basis for the selection of patients for surgery. This process is supplemented and supported by the results of the
other modalities of investigations available namely radionuclide scanning ultrasound scanning and fine-needle aspiration cytology.

The evaluation of malignancy in solitary thyroid nodule of our population will help in better management and early diagnosis and management give an excellent outcomes in thyroid malignancy. This study has been done to evaluate the malignancy in solitary thyroid nodule. The purpose of this study was to find out the frequency of the malignancy in solitary thyroid nodule in our hospital.

METHODS

This is a prospective study, conducted in Department of ENT and Head and Neck Surgery, National Academy of Medical Sciences Bir Hospital Kathmandu Nepal.

The study period was 3 years from 14 April 2011 to 13 April 2014. The study population consisted of 50 patients who were diagnosed as a solitary thyroid nodule.

Inclusion criteria are patients with solitary thyroid nodule, patients with all ages and both sexes and patients euthyroid clinically and biochemically.

The exclusion criteria are patients with multinodular goiter, patients who were not in euthyroid state. 50 cases of solitary thyroid nodules confirmed by USG of Thyroid gland who were sheduled for thyroidectomy in Bir Hospital were included in this study.

RESULTS

Table –I Age and sex distribution of patient

<table>
<thead>
<tr>
<th>Age group(years)</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-20 yrs</td>
<td>02</td>
<td>02</td>
<td></td>
</tr>
<tr>
<td>21-30</td>
<td>01</td>
<td>08</td>
<td>09</td>
</tr>
<tr>
<td>31-40</td>
<td>06</td>
<td>19</td>
<td>25</td>
</tr>
<tr>
<td>41-50</td>
<td>03</td>
<td>04</td>
<td>07</td>
</tr>
<tr>
<td>51-60</td>
<td>04</td>
<td>01</td>
<td>05</td>
</tr>
<tr>
<td>61-70</td>
<td>02</td>
<td>02</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>36</td>
<td>50</td>
</tr>
</tbody>
</table>

Table-II Geographical distributions

<table>
<thead>
<tr>
<th>District</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kathmandu</td>
<td>01</td>
<td>04</td>
<td>05</td>
</tr>
<tr>
<td>Lalitpur</td>
<td>03</td>
<td>03</td>
<td></td>
</tr>
<tr>
<td>Bhaktapur</td>
<td>01</td>
<td>01</td>
<td></td>
</tr>
<tr>
<td>Kavre</td>
<td>01</td>
<td>03</td>
<td>04</td>
</tr>
</tbody>
</table>

DISCUSSION

Solitary thyroid nodule is the commonest endocrine problem worldwide. The incidence of malignancy in solitary thyroid nodule vary from country to country. Appropriate surgical interventions can reduce the higher rates of morbidity and mortality.

In this study 50 patients with solitary thyroid nodule were studied. The highest frequency was 25 cases (50%) in 31-40 years which is correlated with the study of Rahman, Nath, Sattar.9,10 The youngest patient in this
study was 16 years with papillary carcinoma and oldest patient in this study was 68 years old female with anaplastic carcinoma showing the extreme of ages has more chance to be malignant.

In this study out of 50 patients 14 were male and 36 were female .Male female ratio was 1:2.6. This female preponderance is seen in all other studies. This ratio was shown 1:5 by Rahman9, 1:4 by Welkar4, 1:2.5 to 4.1 by Zuberi11.

Regarding the geographical distribution patients were from 17 different districts of nepal and no such geographical preponderance is seen in this study.

In preoperative Fine aspirational cytology 37 were benign, 11 were malignant while 02 cases were reported as suspicious cases.

In this study after the operation histopathological report analysis was done and found that nodular goiter was 26 cases, hashimoto thyroiditis 04 cases, adenomatous goiter 07 cases, papillary carcinoma was 10 cases, follicular carcinoma was 02 cases and anaplastic carcinoma was 01 cases. It was almost similar to study of Zygmun and Meckenzie.12

In this study the relative frequency of malignancy in solitary thyroid nodule was 26% which is correlated with the study os Asraf13, Rahaman9, Sattar10. In the study of Rahman in solitary thyroid nodule malignancy was 21.44%. The incidence of malignancy in 91 patients with solitary thyroid nodule was found to be 20.9%. by Kendall and Condon.14

In another study by Wong et al15 of a series of 195 clinically diagnosed solitary thyroid nodules, the incidence of malignancy was found to be 10.2%. And abu-Eshy et al16 in a similar study of 105 patients with solitary thyroid nodule the incidence of malignncy was 15.2%.

Among malignancies papillary carcinoma was found to the commonest malignancy (76.9%) followed by follicular carcinoma which is compatible with the result in other literatures.

**CONCLUSION**

Solitary thyroid nodule is one of the common problem of thyroid disease in all ages. Clinical importance of Thyroid nodule is exclusion of malignancy. Female was more commonly affected than male. The highest number were found in 30-40 years age group. No geographical preponderance is seen in the cases of 17 districts patients.

After operation histopathological examonation revealed that frequency of malignancy in this study was 26%. Among the malignancies papillary carcinoma was the most common (76.9%)followed by follicular carcinoma.

**REFERENCES.**