A Prospective Study on Prevalence of Hyperprolactinemia & Hypothyroidism in Benign Breast Diseases

Mohd Tarique

ABSTRACT

Background: Benign breast disorders are usually come across in Indian clinical practice. Due to Cultural inhibitions many Indian women don’t turn up for breast related problem. Therefore, they are unaware of the breast changes that usually occur, and these changes may be normal or abnormal.

Methods: Fifty cases were included in this study on the bases of clinical symptoms. This study conducted in the department of surgery, Madhubani Medical College, Bihar. The duration was study was six months. Data were collected on the bases of clinical symptoms & serum was collected for the estimation of TSH & prolactin.

Results: Prevalence of serum prolactin & TSH estimation done for all the patients and revealed that 22% cases had hyperprolactinemia & 24% had thyroid.

Conclusion: The results of our study conclude that strengthen the association of thyroid dysfunction with benign breast disease.

Keywords: Benign breast disorders, TSH, Prolactin, Autoimmunity

INTRODUCTION

Benign breast disorders create a major breast health problem in women in all age groups, particularly in the reproductive age group. It has been reported that the commonness has ranged from 16 to 50%.[1–3] On the etiology of BBD, several endocrine and non-endocrine theories have been proposed. The association of BBD with thyroid dysfunction is published in the literature.[4–6] Now it can be concluded that there is an increase in the occurrence of thyroid disorders in women with BBD. Various thyroid disorders, such as autoimmunity, goiter, hypothyroidism, and hyperthyroidism, have been associated with BBD and its outcome.[5,6]

Benign breast disorders are usually come across in Indian clinical practice. Due to Cultural inhibitions many Indian women don’t turn up for breast related problem. Therefore, they are unaware of the breast changes that usually occur, and these changes may be normal or abnormal. Even for benign problems, cancer phobia prevents a number of the urban women to directly seek the services of medical and surgical oncologist.

It is well known that breast is embryological a modified sweat gland. The main difference between immature and mature breast is that immature breast consists of fibrous stroma and scattered ducts while mature breast is composed of fat, stroma, lactiferous ducts and lobular units. The maturation of breast is dependent on hormone. The growth, cell division and maturation of breast are under control of estrogen, progesterone, adrenal hormones, pituitary hormones and trophic effect of insulin and thyroid hormone. Apart from these growth factor networks also play a significant role in breast development and maturation. Though being a
substantial cause of concern in almost 50% of the female population, association of BBD with thyroid dysfunction is not well established. Therefore, during the diagnosis of BBD cases, there are no guidelines regarding monitoring of thyroid function.[7]

METHODS

Study population: - Fifty cases were included in this study on the bases of clinical symptoms.

Study Area: -This study conducted in the department of surgery Madhubani Medical College, Bihar

Duration: -The duration was study was six months.

Data collection: -Data were collected on the bases of clinical symptoms & serum was collected for the estimation of TSH & prolactin.

Data analysis: -Data were analyzed by using Microsoft Excel.

RESULTS

In our study, total fifty cases were included in this study. Among the fifty cases 52% patients were belongs to 21-30 age group followed by <20 (12%), 31-40(30%), >40(6%). Serum prolactin & TSH estimation done for all the patients and revealed that 22% cases had Hyperprolactinemia & 24% had Hypothyroidism.

Table 1: Distribution of age

<table>
<thead>
<tr>
<th>Age</th>
<th>No. of cases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;20</td>
<td>6</td>
<td>12%</td>
</tr>
<tr>
<td>21-30</td>
<td>26</td>
<td>52%</td>
</tr>
<tr>
<td>31-40</td>
<td>15</td>
<td>30%</td>
</tr>
<tr>
<td>&gt;40</td>
<td>3</td>
<td>6%</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2: Prevalence of prolactin & TSH

<table>
<thead>
<tr>
<th>Prolactin</th>
<th>No. of cases</th>
<th>PR 1</th>
<th>PR 2</th>
<th>PR 3</th>
<th>PR 4</th>
<th>PR 5</th>
<th>PR 6</th>
<th>PR 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;23</td>
<td>11</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>&gt;23</td>
<td>39</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>3</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSH</th>
<th>No. of cases</th>
<th>TH 1</th>
<th>TH 2</th>
<th>TH 3</th>
<th>TH 4</th>
<th>TH 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;4.2</td>
<td>12</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>&gt;4.2</td>
<td>38</td>
<td>2</td>
<td>5</td>
<td>0</td>
<td>17</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>3</td>
<td>6</td>
<td>6</td>
<td>23</td>
<td>8</td>
</tr>
</tbody>
</table>

The present study aim is to assess the commonness of hypothyroidism in benign breast disease. It has been suggested by some literature that there is a relation between thyroid hormone and/or iodine and the normal mammary gland.[8]

However, there are very few researches on the relation of thyroid disorders and breast disorders.[5,6] Mostly researches have been focused on the relation of breast cancer with the thyroid. Though the fact is that, the prevalence of BBD is more common than breast cancer.[5,6,9-10] However, BBD is not as clinically significant as breast cancer, yet it has a significant cause of concern in almost half of the female population.[11]

The association of BBD with thyroid dysfunction have been researched very less so far. However, if we consider a good response of BBD to thyroxin replacement, BBD might be assumed a manifestation, rather than an association, of hypothyroidism. Though routine screening for subclinical hypothyroidism is a contentious issue, mostly screening is recommended for high-risk groups such as elderly women and pregnant patients, who would benefit from treatment.[12-14] It is suggested that the benefit of screening should be extended to BBD patients because therapeutic intervention are highly satisfying to the patients.

CONCLUSION

It has been concluded in the present study that- It could be end from organ hypersensitivity to normal circulating levels of prolactin, other hormones and environmental factors that is responsible for benign breast disease and pharmacological manipulation of prolactin in patients having high levels of serum can provide relief from symptoms. The results of our study strengthen the association of thyroid dysfunction with benign breast disease. Hence it is essential for benign breast disease patients to go for screening regularly because simple correction of hypothyroidism may result in significant clinical improvement of benign breast disease patient.

REFERENCES

10. Cristofanilli M, Yamamura Y, Kau SW et al (2005) Thyroid hormone and breast carcinoma: primary hypothyroidism is associated with a reduced incidence of primary breast carcinoma. Cancer 103:1122–1129

DISCUSSION

It has been shown by both normal and pathological breast tissues that a cluster of sodium iodide symporter (NIS), deiodinase and peroxidase, are indicating active and dynamic involvement of breast tissue in iodine metabolism. There is no guideline as such for monitoring of thyroid functions during examination of Benign breast disease cases.