

Thyroid Malignancy in Multi Nodular Goitre

Babu S¹, John Kennedy J², Ravishankar J³

M.S. (Gen. Surgery) Former Associate Professor, Department of Surgery, Government Sivagangai Medical College Hospital, Sivagangai, Tamilnadu, India

M.S. (Gen. Surgery) Assistant Professor, Department of Surgery, Government Sivagangai Medical College Hospital, Sivagangai, Tamilnadu, India

M.S. (Gen. Surgery) Associate Professor, Department of Surgery, Government Sivagangai Medical College Hospital, Sivagangai, Tamilnadu, India

Abstract: ***Introduction:** Multi nodular goitre (MNG) is one of the common presentations of various thyroid diseases. Careful examination discloses their presence in at least 4% of the general population. Nodules less than 1 cm in diameter are not clinically detectable unless located on the surface of the gland, are much more frequent. Although MNG was traditionally thought to be at low risk for malignancy as compared to its single nodule counterpart, various studies have reported a significant risk. The objective of this study was to determine the incidence and the type of thyroid carcinoma (TC) in multi nodular goitre by doing the histopathological examination of thyroid specimens. **Materials and Methods:** This prospective observation study was carried out in the department of Surgery at Government Sivagangai Medical College, Tamilnadu, India during the period November 2013 to October 2019. All patients with multi-nodular goiter with or without thyrotoxicosis were evaluated and they were offered surgery as the treatment for suspicious findings, cosmesis, compressive symptoms and thyrotoxicosis. The specimens were subjected to a histopathological evaluation to determine the incidence and the types of various malignancies in MNG. **Results:** Among the 65 MNG cases which were studied, 8 (12.5%) cases contained malignant foci. Among them, papillary carcinoma was seen in 7 cases (87.5%), which is the most common type of malignancy was observed. **Conclusion:** The incidence of malignancy in MNG is quite significant and it is not very low as was thought before. Due to the risk of occult malignancy, all the patients with multi – nodular goitres who are treated conservatively need a close follow up for malignancy.*

Keywords: Thyroid, Multi Nodular goitre, MNG, Nodule, Carcinoma

1. Introduction

The normal thyroid gland is a fairly homogenous structure. But nodules often form within its substance. These nodules may be only the growth and fusion of localized colloid filled follicles or more or less discrete adenomas or cysts. Nodules larger than 1 cm may be detected clinically by palpation. Careful examination discloses their presence in at least 4% of the general population. Nodules less than 1 cm in diameter are not clinically detectable unless located on the surface of the gland, are much more frequent. The terms adenomatous goitre, non toxic nodular goiter and colloid nodular goiter are used interchangeably as descriptive terms when a multi nodular goiter is found [1,2,3]. MNG had been traditionally thought to be at a low risk for malignancy as compared to a solitary nodule thyroid [4,5,6]. However various studies have reported a 7 to 17% incidence of malignancy in MNG [5,7,8]

Exposure to ionizing radiation, changing levels of iodine nutrition and increased pathologic diagnosis of clinically unimportant thyroid neoplasia have all been proposed as explanations for a world wide rise in the incidence of thyroid carcinoma over the past six decades [8,9,10,11]. The objective of this study was to determine the frequency of thyroid carcinoma in multi nodular goiter in patients undergoing thyroidectomy.

2. Method

The prospective observational study was carried out in the Department of Surgery at the Government Sivagangai Medical College, Sivagangai, Tamilnadu, India during the period November 2013 to October 2019. All patients with goitres examined clinically and sonologically. Patients with multi nodular goitre were selected for the study. Solitary nodule thyroid, Graves' disease and metastatic cervical lymphadenopathy were excluded from the study.

All patients underwent preoperative evaluation including thyroid profile, USG neck, ENT evaluation, FNAC from the nodule. The patients were offered surgery as a treatment based on the suspicious findings during the diagnostic work up, equivocal results from the various investigations, the compressive symptoms, thyrotoxicosis and cosmesis. In all the selected cases of MNG, total thyroidectomy was performed, following the identification and preservation of the recurrent laryngeal nerves and the parathyroid glands. After the surgery, all the thyroid specimens were sent for a histopathological evaluation. All pre operative, operative and post operative findings were recorded in detail in a standard format and the results were evaluated.

3. Results

In this study we had 65 cases of multinodular goitre who underwent total thyroidectomy. Of which 62 (95%) were female and 3 (5%) were male, showing a female preponderance (Figure 1). Majority of patients were in 4th (37%) and 5th (23%) decade (Fig 2 -Bar chart)

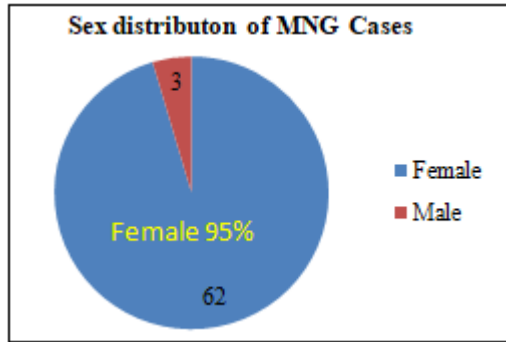


Figure 1

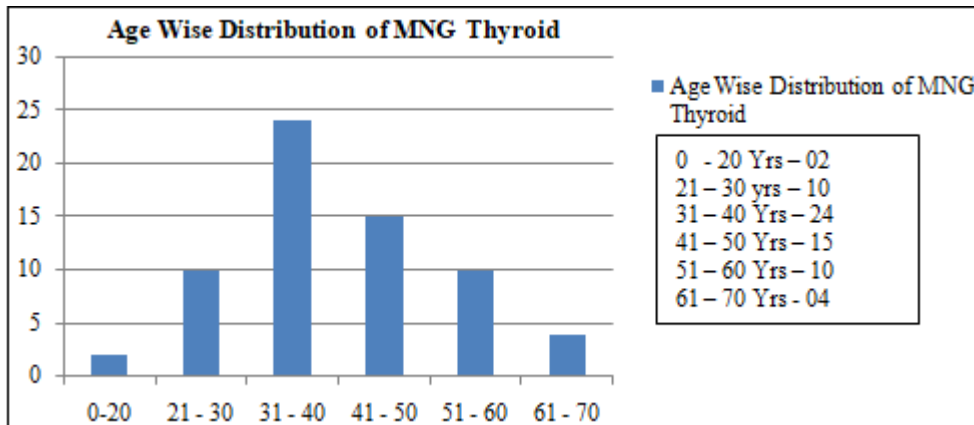


Figure 2

FNAC reports showed 56 cases benign, 3 cases malignant and 6 inconclusive. The patients were offered surgery as the treatment based on the suspicious findings during the diagnostic work up, the equivocal results from the various investigations, the compressive symptoms, thyrotoxicosis and cosmesis. In all the cases total thyroidectomy was carried out and the specimens were subjected to a histopathological evaluation. The histopathology of the specimens revealed that 8 patients had a malignant focus and so the incidence of carcinoma In MNG was 12.5% in our study (Fig. 3)

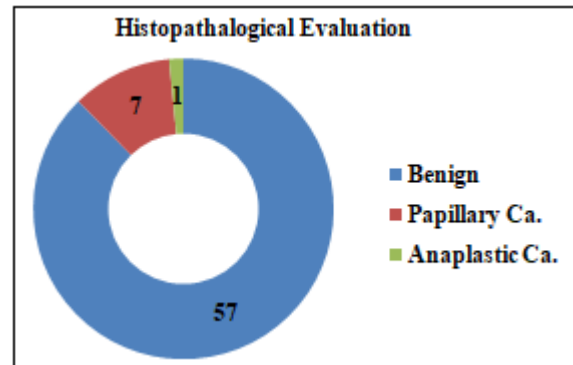


Figure 3

Among the malignancies, papillary carcinoma (87.5%) was the commonest type which was observed in MNG in our study (Table 2). The common age group for the presentation of carcinoma of the thyroid was 3rd, 5th and 6th decade in our study (Fig 4). Of the eight patients with MNG and carcinoma of the thyroid, 7 were females and 1 was male.

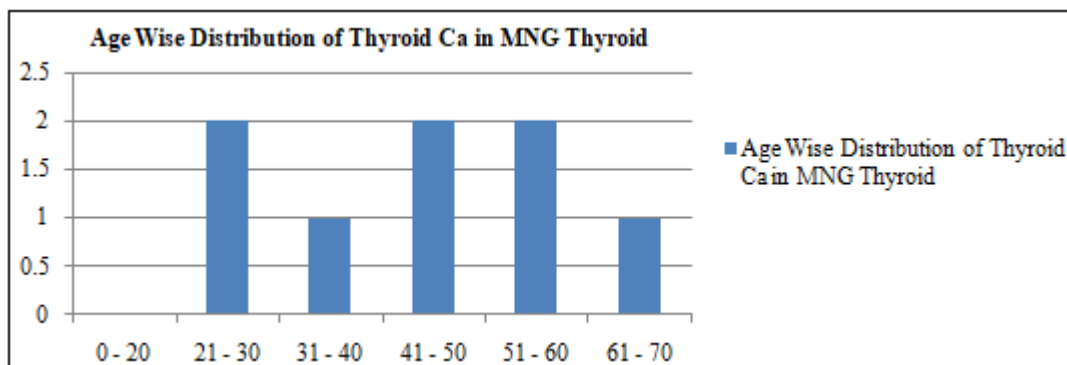


Figure 4

4. Conclusion

The risk of malignancy in MNG should not be underestimated. Dominant nodule in MNG should be considered as significant as solitary nodule in an otherwise normal gland. Risk of malignancy in MNG is not as low as it was thought before and that it is quite significant. Due to the risk of occult malignancy, all the patients with MNG who have been treated conservatively need a close follow up for malignancy.

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Author Profile

Dr. S. Babu M.S; H 70, New H.I.G. Colony, Anna nagar, Madurai – 625020