



# WELL-DIFFERENTIATED THYROID CANCER: THE PHILIPPINE GENERAL HOSPITAL EXPERIENCE

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## BACKGROUND

Differentiated thyroid carcinoma is the most common thyroid malignancy, comprising approximately 90% of new cases of thyroid cancer in iodine-sufficient areas of the world. Asian women in particular were observed to have the highest incidence rates for well-differentiated thyroid cancer (WDTC). Although WDTC is associated with a good prognosis, it may have a highly recurrent state and fatal outcome in a few selected group of patients. Filipinos in particular were reported to be the ethnic group with the highest incidence of thyroid cancer in studies done in Hawaii and Los Angeles. Thyroid cancer among Filipinos were also observed to be more aggressive and recurrent in nature. This paper aims to describe the clinical experience of a tertiary care hospital center in the Philippines (Philippine General Hospital - PGH) in managing patients with differentiated thyroid cancer.

## METHODOLOGY

This is a retrospective cohort study of 723 patients diagnosed with WDTC (649 Papillary and 79 Follicular) seen at the PGH between January 1990 and June 2014. We evaluated clinic-pathologic profile, ultrasound features, management received, clinical course, tumor recurrence and eventual outcome during a mean follow-up period of 5 years.

### Comparison of Patients with Papillary Thyroid Cancer Across Different International Studies

|  | Philippines (n = 649) | Korea (n = 189) | Japan (n = 5,768) | U.S.A. (n = 2,444) | Canada (n = 262) |
|--|-----------------------|-----------------|-------------------|--------------------|------------------|
| Age at Presentation                      | 43                    | 45              | 49                | 46                 | 42               |
| Female Percentage                        | 85.2                  | 79.9            | 89.4              | 67.4               | 74               |
| Tumor Size (cm)                          | 2.9                   | 1.8             | 1.5               | 2.1                | 2.0              |
| Percentage with Extrathyroidal Extension | 7.1                   | 47.6            | 13                | 13                 | 57               |
| Percentage with Nodal Metastases         | 29.9                  | 31.2            | 20                | 40                 | 50               |
| Percentage with Distant Metastases       | 3.7                   | 0.5             | 2                 | 2                  | 5                |
| Recurrence Rate                          | 30.1                  | 17.5            | 9.6               | 14                 | 26.3             |

### Comparison of Patients with Follicular Thyroid Cancer Across Different International Studies

|  | Philippines (n = 79) | Canada (n = 120) | Korea (n = 483) | Austria (n = 207) |
|--|----------------------|------------------|-----------------|-------------------|
| Age at Presentation                      | 44                   | 59               | 43              | 57.8              |
| Female Percentage                        | 91.1                 | 73               | 84.5            | 71.5              |
| Tumor Size (cm)                          | 3.5                  | 4.0              | 3.5             | 3.9               |
| Percentage with Extrathyroidal Extension | 5.1                  | 38               | 10              | 8.2               |
| Percentage with Nodal Metastases         | 7.6                  | 20               | 3               | 7.7               |
| Percentage with Distant Metastases       | 12.7                 | 21               | 8               | 18.4              |
| Recurrence Rate                          | 18.8                 | 18.1             | 3               | 11.1              |

## Histologic Profile of Patients with Well-differentiated Thyroid Cancer

|                       | Papillary Thyroid Cancer (n = 649) | Follicular Thyroid Cancer (n = 79) |
|-----------------------|------------------------------------|------------------------------------|
| Tumor Size (cm)       | 2.9 ± 2.0                          | 3.5 ± 1.9                          |
| Lymph Node Metastasis | 212 (32.7)                         | 6 (7.6)                            |
| Multifocality         | 152 (23.4)                         | 6 (7.6)                            |
| Bilateral Involvement | 114 (17.6)                         | 5 (6.3)                            |
| Micropapillary Cancer | 117 (18.0)                         | -                                  |
| Follicular Variant    | 101 (15.6)                         | -                                  |
| Tall Cell Variant     | 5 (0.8)                            | -                                  |
| Oncocytic Variant     | 1 (0.2)                            | -                                  |

## RESULTS

- Majority of both PTC (63.2%) and FTC (54.4%) presented initially as **Stage 1**.
- A greater proportion of FTC cases (12.7% vs 3.7%) presented with distant metastases with **lungs and bone** being the most common.
- Nodal metastases at presentation** were observed more frequently among PTC (29.9% vs. 7.6%).
- Fine-needle aspiration biopsy (FNAB) was less reliable in diagnosing FTC with only 32% diagnosed preoperatively.
- Majority of cases received complete thyroidectomy, subsequent radioactive iodine therapy and TSH suppression therapy which led to a disease free state in most cases.
- Excluding patients with distant metastases at presentation, recurrence rates for papillary and follicular thyroid cancer were **30.1%** and **18.8%** respectively.
- Recurrences for PTC and FTC frequently occurred within **15-16 months** from the initial post-surgical radioactive iodine therapy.
- FTC had a higher mortality rate (2.5% vs. 0.3%).

## CONCLUSION

- PTC among Filipinos presents at a younger age, larger tumor size, higher distant metastases at presentation and a higher recurrence rate.
- FTC among Filipinos also presents at a younger age but appears to behave similarly with other racial groups.
- Nodal metastases at presentation was more commonly observed in PTC while distant metastases at presentation affected more FTC patients.
- Overall prognosis and survival rates remained to be excellent among Filipinos with WDTC although a higher morbidity from disease recurrence was commonly seen.

