# Surviving into Adulthood: A Descriptive Review of Clinical Profiles of Adult Thalassemia Patients at the Philippine General Hospital

April Joy K. Ong, MD[1], Ma. Angelina L. Mirasol, MD[1]

[1]Division of Hematology, Department of Medicine, University of the Philippines – Philippine General Hospital

## INTRODUCTION

Thalassemia is a common inherited hemoglobin disorder. Despite a growing population of adults living with thalassemia, adult thalassemia remains underrecognized, and local data in the Philippines are limited.

This study aims to describe the demographic and clinical profiles of adult thalassemia patients in a tertiary-level hospital in the country.

## METHODS

This retrospective descriptive study reviewed records of Filipino adult patients diagnosed with thalassemia through hemoglobin electrophoresis, high-performance liquid chromatography, or genetic testing, seen in the Philippine General Hospital.

## RESULTS

A total of 84 adults were included, with a median age of 41 years (IQR: 29, 54) and predominantly female (80%, n=67). Alpha thalassemia accounted for 54% (n=45) and beta thalassemia for 46% (n=39), with the majority having trait/minor thalassemia (65%), followed by intermedia/HbH disease (21%) and major (13%). All cases of thalassemia major occurred within the beta thalassemia subtype. The overall median hemoglobin was 91.5 g/dL, with a mean corpuscular volume of 69.4 fL.

Seventy-five percent had non-transfusion-dependent thalassemia (NTDT), while transfusion dependence was more common among those with beta thalassemia (41%). The median serum ferritin level was 408.5 ng/mL, with higher values observed in the beta group. Deferiprone was the most commonly used iron chelator (20%), followed by deferoxamine (6%) and deferasirox (2%). Complications were uncommon. No cardiac involvement was detected among 14 patients with echocardiography results, and only 2% had undergone splenectomy, both belonging to the beta thalassemia group.

**Table 1.** Demographic and Clinical Characteristics of Adult Patients with Thalassemia

| Demographic Profile | Alpha Thalassemia, n = 45 (54%) | Beta Thalassemia, n = 39 (46%) | Overall (N = 84) | Shapiro-Wilk Test p value |
|---|---|---|---|---|
| **Age, years, mean ± SD / median (IQR)** | 44.9 ± 15<br>45 (32, 54) | 41.0 ± 17<br>37 (26, 54) | 43.1 ± 16.1<br>41 (29, 54) | 0.072 |
| **Sex, n (%)** | | | | |
| Male | 5 (11%) | 12 (31%) | 17 (20%) | |
| Female | 40 (89%) | 27 (69%) | 67 (80%) | |
| **Thalassemia Severity, n (%)** | | | | |
| Trait/ Minor | 31 (69%) | 24 (62%) | 55 (65%) | |
| Intermedia/ HbH Disease | 14 (31%) | 4 (10%) | 18 (21%) | |
| Major | 0 (0%) | 11 (28%) | 11 (13%) | |
| **Transfusion Status, n (%)** | | | | |
| Transfusion-Dependent | 5 (11%) | 16 (41%) | 21 (25%) | |
| Non-Transfusion-Dependent | 40 (89%) | 23 (59%) | 63 (75%) | |
| **Age at diagnosis, years, median (IQR)** | 42 (27, 51) | 31 (6. 51) | 36 (23, 51) | 0.003 |
| **Hemoglobin, g/dL, mean ± SD / median (IQR)*** | 96.8 ± 17<br>94.0 (85.0, 108.0) | 88.2 ± 18.0<br>88.0 (78.0, 100.0) | 92.8 ± 17.9<br>91.5 (81.8, 105) | 0.582 |
| **MCV, fL, mean ± SD / median (IQR)*** | 68.0 ± 8.169.4 (61.9, 73.7) | 70.6 ± 7.1<br>69.4 (66.0, 74.0) | 69.2 ± 7.7<br>69.4 (65.0, 74.0) | 0.954 |
| **MCH, pg, median (IQR)*** | 20.6 (18.6, 22.7) | 21.45 (20.1, 23.2) | 21.0 (20.0-23.0) | 0.011 |
| **Serum ferritin, ng/mL, median (IQR)*** | 403.0 (109.0, 672.0) | 414 (100.37, 1127.5) | 408.5 (109.0, 895.4) | <0.001 |
| **Liver enzymes (ALT), U/L, median (IQR)*** | 27.0 (16.0, 36.0) | 23 (15.5, 32.5) | 24.5 (16, 36.3) | <0.001 |
| **Cardiac involvement via imaging, n (%)** | 0 (0%) | 0 (0%) | 0 (0%) | |
| **Splenectomy status, n (%)** | | | | |
| Done | 0 (0%) | 2 (5%) | 2 (2%) | |
| **Iron chelation, n (%)** | **7 (16%)** | **17 (44%** | **24 (29%)** | |
| Deferiprone | 5 (11%) | 12 (31%) | 17 (20%) | |
| Deferasirox | 2 (4%) | 0 (0%) | 2 (2%) | |
| Deferoxamine | 0 (0%) | 5 (13%) | 5 (6%) | |

## CONCLUSION

Adult thalassemia in the Philippine General Hospital is marked by female predominance and generally mild phenotypes, resulting in late diagnosis and a high proportion of NTDT cases. Given the predominance of adults of reproductive age, these findings underscore the need for targeted screening and genetic counseling. Silent iron overload highlights the need for proactive monitoring and early molecular diagnosis. A large-scale evaluation is recommended.

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**FOR QUERIES, CONTACT**

April Joy Ong - april40424@yahoo.com