**﻿CYP2D6 Genotyping for Optimization of Tamoxifen Therapy in**

**Indonesian Women with ER+ Breast Cancer**

**Baitha Palanggatan Maggadani** 1,†, Kathleen Irena Junusmin 2,†, Fatma Aldila 2, Jessica Audrienna 2,\*,Bijak Rabbani 2, Yusuf Maulana 2, Sabrina Gabriel Tanu 2, Gabriella Gabriella 2, Margareta Amelia 2,Faustina Audrey Agatha 3 , Marco Wijaya 3, Stevany Tiurma Sormin 3, Caroline Mahendra 2,Levana Laksmicitra Sani2, Astrid Irwanto 2,4, Alexandre Chan 5, Harmita Harmita 1, Yahdiana Harahap 1,6and Samuel Johny Haryono 3

1 Faculty of Pharmacy, University of Indonesia, Jakarta 16424, Indonesia; baitha.p@farmasi.ui.ac.id

2 Nalagenetics Pte Ltd., Bukit Merah, Singapore 169204, Singapore

3 SJH Initiatives, MRCCC Siloam Hospitals Semanggi, Jakarta 12930, Indonesia;

4 Department of Pharmacy, Faculty of Science, National University of Singapore, Singapore 119077, Singapore

5 Department of Clinical Pharmacy Practice, School of Pharmacy & Pharmaceutical Sciences, University of California, Irvine, CA 92697, USA; a.chan@uci.edu

6 Faculty of Military Pharmacy, Indonesia Defense University, Bogor 16810, Indonesia

**Background and aims.** ﻿Certain CYP2D6 genotypes are linked to a lower efficacy of tamoxifen therapy. This study aimed to observe CYP2D6 polymorphisms and examine the impact of CYP2D6 genotyping among tamoxifen-treated breast cancer patients in Indonesia.

**Methods.** ﻿50 breast cancer participants were recruited. Buccal swab samples were collected; gDNA was extracted and genotyped using the qPCR method. Blood samples were collected, and measurement of tamoxifen metabolite levels was performed usingUPLC-MS/MS.

**Results.** ﻿43.3% (n = 65) of participants were IMs. \*10 was the most common haplotype (n = 89, 29.7%), followed by \*36 (n = 73, 29.7%), making \*10/\*36 the most common diplotype (n = 34, 22.7%) in this study. The difference in endoxifen levels between the NM and IM-PM groups at baseline was statistically significant (p ≤ 0.001). A dose increase in tamoxifen to 40 mg daily successfully increased endoxifen levels in IMs to a similar level with NMs at baseline (p > 0.05) without exposing IMs to serious side effects. No statistically significant differences were observed between the 20 mg group and the 40mg group on the adjusted OS (p > 0.05) and the adjusted PFS (p > 0.05)

**Conclusion/Discussion.** ﻿Our study observed a considerably high proportion of CYP2D6 IMs. The dose adjustment of tamoxifen was proven to significantly and safely improve the level of endoxifen and survival.

**References:**

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