

Title: The Role of Genetic Polymorphisms of Interleukin-1 (IL-1R1 and IL-1RN) Inprimary Knee Osteoarthritis in Indonesia



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Abstract:

This study aimed to evaluate the association of SNPs of the IL-1 family with the clinical severity of knee OA. This case–control study was performed among 100 healthy knees and 130 osteoarthritis (OA) knees of people aged ≥ 50 years with a BMI ≥ 25 kg/m². The possible correlations among clinical findings, radiographic evaluations, serum levels of IL-1R1 and IL-1Ra, and genotype analyses were evaluated. Three SNPs of IL-1R1, rs871659, rs3771202, and rs3917238, were associated with primary knee OA. Females with IL-1R1 SNP rs871659 allele A had a higher prevalence of primary knee OA. No correlation was found between SNPs of IL-1R1 and IL-1RN and clinical or radiologic severity or serum concentrations of IL-1R1 and IL-1Ra ($p > 0.05$). BMI and IL-1R1 rs3917238 genotype C/C were correlated with moderate-severe VAS scores. A correlation was also found between the EQ-5D-3L self-care dimension and obesity and between the EQ-5D-3L pain and usual activity dimensions and age ≥ 60 and obesity ($p < 0.05$). Radiologic severity was only associated with age ≥ 60 years ($p < 0.05$). We found the IL-1R1 SNPs rs871659, rs3771202, and rs3917238 to be predisposing factors for primary knee osteoarthritis. The clinical findings, radiographic severity, and serum concentrations of IL-1R1 and IL-1Ra were not correlated with these gene polymorphisms.

Biography:

Imelda Lumban-Gaol is a Hip and Knee Surgeon at EMC hospital also head of research at Nicolaas Institute of Constructive Orthopaedic Research & Education Foundation for Arthroplasty & Sports Medicine at Medistra Hospital, Jakarta, Indonesia. With expertise in hip and knee. Their research interests include arthroplasty and arthroscopy. The Nicolaas Institute of Constructive Orthopaedic Research & Education Foundation for Arthroplasty & Sports Medicine also start to focus on bioengineering and genetic research.

Notes or Comments:

Imelda Lumban Gaol is the head of research at Nicolaas Institute of Constructive Orthopaedic Research & Education Foundation for Arthroplasty & Sports Medicine at Medistra Hospital who will present the paper titled The role of genetic polymorphisms of interleukin-1 (IL-1R1 and IL-1RN) in primary knee osteoarthritis in Indonesia. Professor Nicolaas Budhiparama appointed me to replace himfor the meeting in Paris.