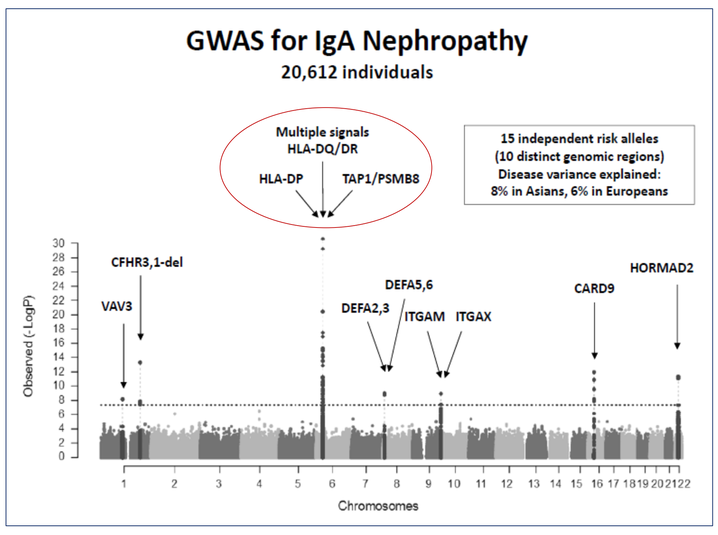
THE ROLE OF HLA-LOCI IN THE PATHOGENESIS OF IGA NEPHROPATHY

Omer Uludag[1], Tarik O. Tiryaki[1], Sebahat Akgul[2], Sonay Temurhan[2], Ege Sinan Torun[1], Safak Mirioglu[1], Ayse S. Artan[3], Mehmet S. Sever[4], Yasar Caliskan[4]

[1] Istanbul University, Istanbul Faculty of Medicine, Department of Internal Medicine, Istanbul, Turkey
[2]Istanbul University, Istanbul Faculty of Medicine, Department of Medical Biology, Istanbul, Turkey
[3]Manisa State Hospital, Department of Internal Medicine, Division of Nephrology, Manisa, Turkey
[4] Istanbul University, Istanbul Faculty of Medicine, Department of Internal Medicine, Division of Nephrology, Istanbul, Turkey

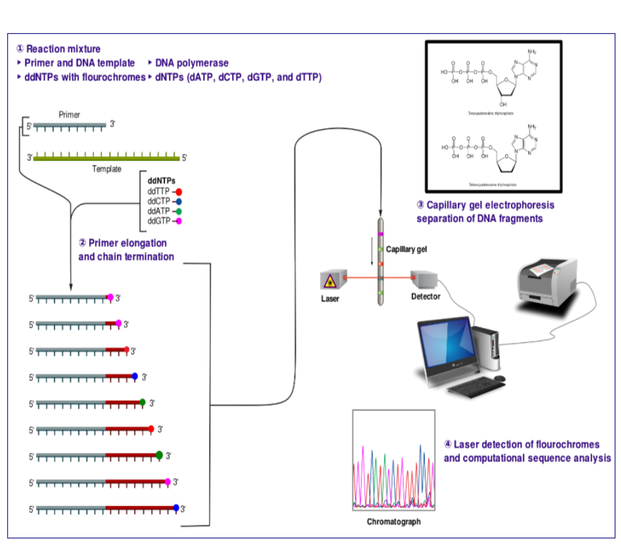
INTRODUCTION AND AIMS

Immunoglobulin A nephropathy (IgAN) is the most common form of primary glomerulonephritis and an important cause of end stage renal disease. The results of genome-wide association studies demonstrate a strong contribution of the major histocompatibility complex (MHC) locus to disease risk. The aim of the present study was to investigate detailed HLA subtypes and assess the relationship between HLA-DQA1, HLA-DQB1, HLA-DRB1 alleles and disease susceptibility and clinical manifestations of patients with IgAN in Turkish population.



METHODS

A total of 126 IgAN patients [73 (58%) male, mean age: 37±12 years, median follow up of 24.5 months (IQR 13-48.5)] were evaluated. Serum Gd-IgA1 levels of patients were measured using KM55 ELISA assay. A PCR-SSO Luminex typing technique was used to detect HLA-DQA1, HLA-DQB1 and HLA-DRB1 alleles in IgAN patients and healthy subjects. The relationship between these HLA alleles and histopathological, clinical characteristics and progression to kidney failure [category G5 chronic kidney disease (CKD)] was also assessed.



RESULTS

Twenty one HLA-DQA1 alleles, twenty seven HLA-DQB1 alleles, sixty one HLA-DRB1 alleles were detected in IgAN patients and healthy subjects. High frequency of HLADQA1*0101, HLADQB1*0507 and low frequency of HLA-DQA1*0102, *0104, *0303 and HLA-DRB1*1601 were observed in IgAN patients compared with healthy controls. Patients with HLADQA1*0101 alleles were found to have significantly higher levels of serum Gd-IgA (10284±6924 ng/μL) levels compared to remaining patients (6924±4269 ng/μL) (p=0.05). Patients with HLADQA1*0101 alleles have significantly lower levels of glomerular IgA and C3 deposition (p=0.023 and p=0.031, respectively), Patients with HLADRB1*14:01/54 and HLADQB1*2:0301 alleles significantly have intense glomerular C3 and IgM deposition (p=0.001 and p=0.008, respectively). No effect of these HLA alleless on renal survival was detected.

CONCLUSIONS

Our study indicated that HLADQA1*0101, HLADQB1*0507 and DRB1*14:01/54 alleles may be a potential predictor of high-risk IgAN susceptibility in Turkish population. The loci associated with glomerular C3 and Ig deposition suggest the genetic basis of critical steps in the pathogenesis of IgAN.

DOI: 10.3252/pso.eu.54ERA.2017
ePosters supported by F. Hoffmann- La Roche Ltd.
PosterSessionOnline.com