INTRODUCTION
Multiple sclerosis is a demyelination autoimmune disease, which affects the central nervous system. Definite cause for MS initiation is still unknown. However, genetic factors are known to participate in the MS risk: the majority of genetic studies have concentrated on the susceptibility variant. The human leukocyte antigen (HLA)-DRB1 * 15:01 has been studied as genetic risk factor in some population. The main players in the disease pathogenesis are the activated immune cells. The HLA association with MS is consistent with the idea that MS is -at its core- an antigen-specific autoimmune disease. With features common to MS are related with certain human leukocyte antigen (HLA) specifically autoimmune diseases. HLA system supply a set of genetic loci their proteins -that have important role in immune response. HLA-DRB1*15:01 has been confirmed to have the strongest association with MS risk in many population.

AIM
To assess the genotypes of (HLA-DRB1 * 15:01) as genetic risk factor for MS development in samples of Iraqi MS patients.

METHODS
This Case control study involved; fifty MS patients for HLA-DRB1 15:01 investigation; their age were ranged from 14 to 69 years. They attended to seek treatment in the MS out patient’s clinic at Medical City- Baghdad Teaching Hospital in the period, which extended from December 2018 to March 2020. The diagnosis of each case was established according to MC Donald criteria done by a neurologist and confirmed by MRI and certain cases by oligoclonal band test of the CSF. Patients were subjected to a questionnaire about name, age, sex, smoking, family, the control group involved 50 apparently healthy person. Patients were.

RESULTS
The Polymerase chain reaction (PCR) products HLA-DRB1 Genes were subjected for Sanger sequencing technique. In addition, the resultant sequences were compared with reference sequences in national center for biotechnology information NCBI. All the genotypes of HLA-DRB1 were analyzed for link age disequilibrium. There was a very high linkage disequilibrium in rs213585, rs2213586 and rs313588 in both patients and control. In concern to the rs313588 SNP, which sags for HLA-DRB1*15:01 the heterozygous genotype (GA) was more frequent in MS patients (28%) than controls (10%) (OR= 3.52; 95%CI=1.16-10.72, p=0.027). Regarding the rs2213585, rs2213586 there were no significant associations between control group and patients.

CONCLUSIONS
This is the first study that revealed that HLA-DRB1 15:01 genotype may be considered as genetic risk factor for MS susceptibility in Iraqi MS patients until 2020.