

INCORPORATION OF GENETIC MARKERS IN DIAGNOSTIC CRITERIA OF OSTEOARTHRITIS KNEE

Sachin Avasthi

RML Institute of Medical Sciences, India

Osteoarthritis knee is one of the most prevalent orthopaedic disorders worldwide. In Indian subcontinent, the prevalence of this disorder is estimated to be in the range of 22% to 39%. Many studies have been conducted for confirmation of association of genetic factors with clinical and radiological features of osteoarthritis knee. Nearly all have proven role especially in association with CALM-1, ESR-alpha, GDF-5 gene etc. Still we are diagnosing such a majorly prevalent disorder on the basis of clinical and radiological criteria only. We conducted a case control study in between for confirmation of the same and found statistically significant results. 120 cases and 120 controls were enrolled. Clinical and radiological features were noted and clinical scoring was done using VAS, WOMAC and Lequesne's scoring system. Genetic polymorphism in relation to intronic region of CALM 1 gene was studied by DNA extraction, PCR and RFLP method. Statistical analysis was done using Stata software. CALM-1 gene intronic SNP (rs3213718) was found in significantly higher number in cases than controls (p value=.0022). Logistic regression has also proved significant association of occurrence of Single nucleotide polymorphism (SNP) with disease. We concluded that CALM 1 gene intronic SNP (rs3213718) is present in Indian Population. The target SNP significantly affects the disease as the difference between cases and controls is highly significant (p value=.0022). We further discussed that there have been multiple such publications confirming the role of genetic factors in causation and progression of osteoarthritis knee. These criteria should be incorporated as biomarkers in diagnosis of osteoarthritis knee.

Biography

Sachin Avasthi is an Associate Professor and Head in Department of Orthopaedic Surgery, DR RML Institute of Medical Sciences, Lucknow. His qualifications are MBBS, MS, PhD. He has an experience of 19 years in the field of Orthopaedic Surgery after completing his graduation. He has more than 120 publications to his credit which include scientific papers, abstracts and book chapters. He has achieved ISAKOS scholarship which is a prestigious association of sports injury. He is an achiever of Health Icon Award by the State Government of UP in India. He has guided more than 45 students in their Postgraduate thesis work. He is Member of many national and international associations such as AO Trauma, IOA etc.

sachinavasthi4778@gmail.com