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What is new in osteoarthritis: A clinician prospective

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Osteoarthritis has always been described as a disease caused by 'wear and tear' until the recent research into genomics followed by proteomics, made it clear that the pathogenesis of OA involves three important steps. First step is the damage to cartilage which may occur due to an injury, malalignment, overuse or obesity. Second step involves activation of inflammatory pathways following the injury. Various cytokines like IL-1, IL-6, TNF- α , prostaglandins, leukotrienes have been implicated leading to increased activity of proteases like MMPs. Third step is repair which tries to undo the damage but in the process produces structurally altered joint which further perpetuates the process of damage and inflammation. A look out for biomarkers of damage to joint or that of inflammation specific to OA may help in its early diagnosis. To prevent/stop the self-perpetuating process of OA, the first step is prevent damage to cartilage. The second step is to block the inflammatory pathways; we already have NSAIDs & steroids but none of them act as "DMARDS" which can modulate the pathogenesis of OA; they only give symptomatic relief. The cytokines targeted in animal models have been IL-1, TNF- α , and the results have been encouraging as far as IL-1 modulation is concerned. The third step at which intervention can be done is to correct the abnormal repair. IGF-1 & TGF- β pathways have been targeted in animal models and results again have been encouraging. With better understanding of pathogenesis of OA, we can now hope that one day we may be able to halt it early enough and prevent debilitating pain and disability.

Biography

Navjyot Kaur is a National Talent Search Examination scholar (NTSE scholar). She has completed her MBBS at the age of 23 years from Maharashtra University of Health Sciences, Pune, India and post graduation in medicine from same university. She is presently posted at Armed Forces Medical College Pune as clinical tutor in department of medicine. She has published 06 papers in national and 02 papers in international journals. She was awarded the best paper award for her work on megaloblastic anemia (thesis topic) in national conference in 2014.

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