Chapter 1

Introduction
Arthropathies are generalized disorders of joints. The symptoms of arthropathies vary, depending on the cause. There are several different forms like rheumatoid arthritis, degenerative arthropathy, neuropathic arthropathy and crystal arthropathy with a variety of causes. Rarely are they caused by genetic alterations, which can be called inherited arthropathies. These genes encode proteins that play an important role in osteochondrogenesis and likely to follow Mendelian inheritance patterns.

Well-defined inherited arthropathies include Stickler syndrome types 1, 2, 3 and 4; Familial digital arthropathy with brachydactyly (MIM#606835); Multicentric osteolysis, nodulosis and arthropathy (MONA)(MIM#259600); Multicentric carpal-tarsal osteolysis (MCTO) with and without nephropathy (MIM#166300); Progressive pseudorheumatoid dysplasia (MIM#208230); Chronic infantile neurologic cutaneous articular syndrome (CINCA)/neonatal onset multisystem inflammatory disease (NOMID) (MIM#607115); Sterile multifocal osteomyelitis, periostitis, and pustulosis (CINCA/NOMID like) (OMIM#612852); Hyperphosphatemic familial tumoral calcinosis (MIM#211900) and Hyaline fibromatosis syndrome (HSF) (MIM#236490).

Most of these syndromes are from the group 31 named, Genetic inflammatory/rheumatoid-like osteoarthropathies and other syndromes with arthropathy as the primary manifestation in other groups from Nosology and Classification of Genetic Skeletal Disorders [1]. Though they are individually very rare, as a group, they constitute a significant proportion of skeletal dysplasias. The studies on clinical and molecular profile of these conditions are scarce in literature. The characterization of the clinical features and genetic alterations of inherited arthropathies are likely to assist in better understanding of their
pathophysiology and provide better insights into therapeutic strategies. Identifying the molecular genetic defects of these diseases will greatly aid in understanding the role of the proteins and recognizing the genotype-phenotype correlation, a prerequisite of definitive genetic counseling, prognostication and prenatal diagnosis. Hence, we aimed to describe the clinical profile of the common inherited arthropathies from Indian population and study the mutation spectrum of *WISP3* and *MMP2* in this group of patients.