

# Angiotensin Converting Enzyme Genotype Affects Development and Course of Sarcoidosis in Asian Indians

Mohammad Tahir <sup>1</sup>, S K Sharma, Shazia Ashraf, Hemant K Mishra

Affiliations + expand

PMID: 18496980

## Abstract

**Background and objectives:** Studies of serum angiotensin converting enzyme (SACE) activity and its association with ACE gene insertion/deletion (I/D) polymorphism in relation to sarcoidosis have yielded variable results. This has been attributed to possible ethnic differences. Present study was designed to evaluate the relationship between I/D polymorphism and susceptibility to develop sarcoidosis and its effect on SACE activity and disease course in Asian Indian patients with sarcoidosis.

**Methods:** ACE genotyping was performed in 72 consecutive patients with sarcoidosis and 199 controls (96 normal healthy individuals and 103 tuberculosis patients taken as disease controls). SACE activity was determined in all patients with sarcoidosis. Various parameters were compared amongst patients with different genotypes as well as between sarcoidosis and control groups.

**Results:** Gene frequency of I and D in control group was 0.6 and 0.4, whereas in patients with sarcoidosis it was 0.35 and 0.65 respectively ( $p < 0.001$ ). For individuals with D allele (DD&ID genotypes), odds ratios for developing sarcoidosis were 9.0 (95% CI: 3.4; 23.7) and 5.5 (95% CI: 2.2; 13.6) respectively considering individuals with II genotype as reference. Mean SACE activity was highest in patients with DD genotype and followed an order of DD > ID > II. Good response to initial corticosteroids was seen in 6 of 6 (100%) patients with II genotype whereas in only 32 of 37 (84%) with ID and 16 of 25 (64%) with DD ( $p = 0.013$ ).

**Interpretation and conclusion:** In Asian Indian population 'D' allele is associated with an increased risk for development of sarcoidosis and patients with 'D' allele show poor response to corticosteroids.