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Title: Does the HLA-DRB1-genotype influence the course of disease in Danish sarcoidosis patients?

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Body: Background: The MHC class II region plays an important role in sarcoidosis, due to modulation of the immune response. HLA-DRB1*15 is associated with non-resolving disease in Swedish sarcoidosis patients (Grunewald et al. Respiratory Research 2010, 11:25). We evaluated the influence of the DRB1-genotype in Danish sarcoidosis patients. Subjects and methods: DRB1-genotyping was performed by PCR in 85 ethnic Danish sarcoidosis patients (52 men). Age at diagnosis was median 34 years (range 1-72). The follow-up period was median 37 months (range 0-516). Results: The prevalence of DRB1*01 was lower ($p=0.0040$) and the prevalence of DRB1*15 higher ($p=0.00006$) in sarcoidosis patients compared to controls. At follow-up, DRB1*07 was associated with a significantly lower frequency of non-resolving disease >2 years, whereas DRB1*15 was associated with a significantly higher frequency of non-resolving disease.

Table 1. Course of sarcoid disease according to DRB1-genotypes

DRB1-genotype	Patients (n)	Resolving disease (n)	Non-resolving disease (n)	P-value
1-4+8-13	81	26	55	
vs 7	11	10	1	0.0003
1-4+8-13	81	26	55	
vs 15	32	4	28	0.036
7	11	10	1	
vs 15	32	4	28	0.000005

Fisher's exact test

However, there were no significant differences between the DRB1-genotype groups concerning lung

function tests (FEV1%, FVC%, DLCO% predicted) and chest X-ray stages according to Scadding.

Conclusions: We have no biochemical markers of sarcoidosis. When the diagnosis has been confirmed, the DRB1-genotype may be used to predict the course of disease. In contrast to Swedish studies we found that DRB1*07 was associated with resolving disease, while our results confirmed the established association between DRB1*15 and non-resolving disease.