

PublisherInfo		
PublisherName	:	BioMed Central
PublisherLocation	:	London
PublisherImprintName	:	BioMed Central

Correlation of sacroiliitis inflammatory change with MRI

ArticleInfo		
ArticleID	:	200
ArticleDOI	:	10.1186/ar-2000-66790
ArticleCitationID	:	66790
ArticleSequenceNumber	:	157
ArticleCategory	:	Paper Report
ArticleFirstPage	:	1
ArticleLastPage	:	3
ArticleHistory	:	RegistrationDate : 2000-3-13 OnlineDate : 2000-3-13
ArticleCopyright	:	Current Science Ltd2000
ArticleGrants	:	
ArticleContext	:	130753311

Keywords

immunohistology, MRI, sacroiliitis

Context

To quantify the inflammatory change in biopsies of sacroiliac joints and to compare the degree of inflammation with the degree of enhancement in

the sacroiliac joints as detected by dynamic MRI imaging.

Significant findings

Patients were divided into two groups according to the activity index. Eight of 32 patients had low levels of enhancement (between 30% and 70%) and 12 of 32 patients had enhancement >70%. A significant increase ($p=0.05$) was seen in the total number of inflammatory cells from the biopsies in patients with high levels of enhancement. In relation to chronicity changes, patients were once again divided into two groups with 9 patients having less than grade II change and 13 with more than grade II. The number of inflammatory cells was significantly increased in patients with low grade chronic change as compared to those with more advanced disease ($p = 0.04$)

Comments

Typical bony changes are required for ankylosing spondylitis to be diagnosed. It remains unclear whether these changes originate in joint inflammation or have their source in cartilage or bone. The results of this study strongly support the former hypothesis (immune-mediated mechanisms) in the pathogenesis of sacroiliitis. The study helps establish magnetic resonance imaging (MRI) as a reliable tool for detection of sacroiliitis, especially in the early stages of the disease. The conclusions may be biased by the low yield of biopsy material adequate for analysis and because

the exact localisation of the material obtained is also difficult to interpret. Despite these shortcomings, the data represent an important contribution to our understanding of the pathogenesis of sacroiliitis.

Methods

Thirty-two patients were identified, 18 with ankylosing spondylitis, 12 with undifferentiated spondylarthropathy and 2 with psoriatic arthritis. The degree of acute sacroiliitis was quantitatively assessed by calculating the enhancement observed in the sacroiliac joint using MRI after gadolinium injection (the area looks brighter after injection of gadolinium, indicating active inflammation). The grading of activity and chronicity indexes of the MRI results were performed as previously proposed by the same authors. Following staining of biopsy material for T cells and macrophages, a quantitative immunohistological examination was performed.

References

1. Bollow M, Fischer T, Reibhauer H, Backhaus M, Sieper J, Hamm B, Braun J: Quantitative analyses of sacroiliac biopsies in spondyloarthropathies: T cells and macrophages predominate in early and active sacroiliitis - cellularity correlates with the degree of enhancement detected by magnetic resonance imaging. *Ann Rheum Dis* . 2000, 59: 135-140.