ANCA and ANA in eight of 145 (5.3%) ANCA-positive silica exposed patients

Patient	Silica status	Renal diseases	ANCA		PR-3	MPO	ANA		ENA	RF
			St.	Titre			St.	Titre		
1	Lung disease	FSH	p	200	-	+	H	200	NI	+
2	Lung disease	FSGS	c	160	-	+	-	-	SS-A	-
3	Lung disease	CRF	p	20	-	+	S	50	-	-
4	Exposure	MGN	p	320	ND	+	S	50	SS-A	-
5	Exposure	NCGN	p	640	-	+	S	100	-	-
6	Exposure	FSGS	p	160	-	+	-	-	-	-
7	Exposure	NCGN	c	100	-	+	H	50	-	-
8	Exposure	NCGN	p	320	-	+	H	1000	-	-

FSH = Focal and segmental hyaline; FSGS = focal and segmental glomerulosclerosis; CRF = chronic renal failure; MGN = membranous glomerulonephritis; NCGN = necrotising and crescentic glomerulonephritis; St. = staining pattern; p = perinuclear; c = cytoplasmic; PR-3 = proteinase-3; ND = not done; H = homogeneous; S = speckled; ENA = antibodies against extractable nuclear antigens; RF = rheumatoid factor; NI = not identified.

Since then, two additional patients with silicon nephropathy and MPO-ANCA have been found: one had a membranous glomerulonephritis and the other a necrotising crescentic glomerulonephritis (NCGN). For the latter (No 5 in the table), MPO-ANCA were already present in a 10 year old frozen serum sample. In addition, three other patients with renal disease (one with FSGS and two with NCGN) having MPO-ANCA were exposed to silica without documented lung disease. Indeed, the overall incidence of patients with silica exposure and renal involvement among our ANCA-positive patients is 5.5% (eight of 145). All had MPO-ANCA whatever the staining pattern; it is now well known that some MPO-ANCA may have a c-ANCA staining pattern.⁵

In view of our observations, we would like to know more about the renal status (haematuria, proteinuria, glomerular filtration rate) of the 32 affected individuals of Sanchez-Roman's group. It could be of great interest to screen for ANCA in this silicotic population.

Silica is well known to trigger autoimmune processes, probably by macrophage stimulation and subsequent increased interleukin-1 production.⁶ Only a few such patients develop silicon nephropathy and this almost always presents as RPGN.³

Antinuclear antibodies (ANA) positivity in sera of such patients is well documented.⁷ In our group all but one patient had ANA: three had antibodies against extractable nuclear antigens (two anti-SS-A and one unidentified), and only one had rheumatoid factor. No patient had anti-native DNA. Finding of ANCA may be just another marker of polyclonal activation. Silica could also have direct tissue toxic effects to explain the nephropathy.

Conversely, MPO-ANCA may be of importance in the pathogenesis of the associated disease, in association with lysosomal enzymes and release of oxygen metabolites as suggested by recent studies in an animal model.⁸ Nevertheless two of our patients (Nos 1 and 5) had stable chronic renal failure for eight to 10 years with persistent ANCA positivity, confirming the observations of a previous report.⁹

In our area, which has numerous slate mines, a prospective study is in progress to determine the relevance of this new association that has also been observed in another country and was reported to the 4th International ANCA Workshop.¹⁰

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AUTHOR'S REPLY: We read carefully the letter by Dr Chevailler and colleagues. Their findings are very interesting in relation to the pathology we are studying. We wish to make the following comments:

- 1) The methods of selection of Chevailler's patients and ours were different: our selection criterion was an occupational exposure to silica, while Chevailler's subjects were selected for positivity for ANCAs.
- 2) Renal disease was not present in any of the 50 individuals of our study: creatinine clearance and urine sediment were normal; proteinuria was absent in all of them. In addition, we have information about three

other subjects that worked at the same factory but were not included in our study. Two suffered from renal insufficiency and died before our study began; their diagnosis was an extracapillary glomerulonephritis. The third, still living, has been a dialysis patient for 14 years; her biopsy showed extracapillary glomerulopathy. A serum from 1985 and a recent one were negative for ANCAs by immunofluorescence and gave negative results in an antimyeloperoxidase enzyme linked immunosorbent assay (Ferring/Diagnostica). This patient is hyperimmunised against HLA antigens, with a negative autocrossmatch. At present, antinuclear antibodies are negative.

Our present study has now included 150 individuals, two of whom have renal disease: one has a nephrotic syndrome and has refused further studies. The other patient has SLE with a renal disease of slow evolution; her biopsy is pending. On neutrophil substrate her serum shows a perinuclear pattern at 1/10.

3) We did not study ANCAs in our first 50 patients, but it would be interesting to perform this test in our patients exposed to silica.

4) Further, we think it could be very interesting to compare the frequency of ANCAs in these patients with the frequency in specified connective tissue diseases (the antimyeloperoxidase antibodies are very rare in systemic sclerosis, but frequent in SLE).^{1,2} In the light of Chevailler's data from patients exposed to silica, myeloperoxidase antibodies would not be markers for systemic disease but, rather, predictors or markers for renal sequelae of slow evolution.

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Rheumatoid arthritis in black Americans

Recently, MacGregor and colleagues¹ have reported a low prevalence of rheumatoid arthritis (RA) in black Caribbeans compared with white patients in inner city Manchester. Although clinical features of RA were similar in both groups, the small number of subjects precluded detailed comparison. Similar studies in black Americans are scanty. López-Méndez *et al*² observed no significant clinical differences between black and white Americans with regard to frequency of extra-articular manifestations (EAM), disability, fatality rate, and functional outcome.

We undertook a cross sectional study of 47 black American outpatients with RA (American Rheumatism Association classification³) who were consecutively examined and interviewed using a questionnaire that sought information on their demographic and clinical status. The following data were recorded: formal educational level, marital status, and employment (during more than