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CORRESPONDENCE

This department is for the publication of informal communications that are of interest because they are informative and stimulating, and for the discussion of controversial matters.

Bacteriuria, Chronic Pyelonephritis and Leprosy

TO THE EDITOR:

We would like to comment on two subjects which have figured in leprosy journals in recent years, namely bacteriuria ([7, 9 11]) and chronic pyelonephritis ([2]). In regards to bacteriuria, we can see no reason why this should be any more common in leprosy patients than in the general population from which they are drawn. During the period 1968-1971, we examined 229 adult leprosy patients attending the Leprosy Outpatient Clinic at this hospital and found bacteriuria in only 11 (4.8%). These 11 patients had normal renal tracts on radiological examination. There was no significant difference between lepromatous and nonlepromatous patients in regards to the incidence of bacteriuria and, as many of the 229 patients were middle-aged or older and there were almost as many females as males, we doubt if our figure of 4.8% can be considered abnormal ([6]).

On the question of chronic pyelonephritis, we would first of all ask for a definition of the condition. On this subject a recent Leading Article ([5]) in the *British Medical Journal* had this to way:

> "The term 'chronic pyelonephritis' has been used in various senses, and it is difficult to define clearly a disease denoted by it. . . . The diagnosis of chronic pyelonephritis presents formidable difficulties. Beeson ([1]) considers that there are no direct symptoms, and that physical findings likewise are normal except for those caused by renal insufficiency. Microscopical examination of formed elements in the urine may disclose surprisingly little. Proteinuria is variable and never large in amount; bacteriuria alone is not diagnostic, while patients with unquestionable chronic pyelonephritis may have negative urine cultures. The provocation of urinary leucocyte excretion by administering intravenous pyrogen or prednisolone has proved helpful, but unfortunately is not specific for pyelonephritis, similar findings being obtained in some patients with glomerulonephritis. Radiology seems the most helpful aid to diagnosis, the essential features being asymmetry and irregularity of renal outlines, with blunting of one or more calices and diminished cortical thickness at the corresponding sites. From the morbid anatomist's point of view Heptinstall ([4]) has emphasized the coarse irregular scarring of chronic pyelonephritis, there often being unequal reduction in the size of the two kidneys, in contrast to the symmetrical contraction of chronic glomerulonephritis and most other forms of shrunken kidney. The depressed, scarred, cortical areas of the renal surface lie opposite dilated and clubshaped calices, with intervening areas appearing normal. Heptinstall stresses the importance of the gross examination of the kidney because of the largely nonspecific microscopical appearances of the parenchymal response to infection."

In the course of our investigation into the renal function of the 229 patients mentioned above, one of us, Tin Shwe ([10]), studied the post-mortem findings in three patients who died of chronic renal failure; in two of these patients the kidneys showed symmetrical contraction, and the kidneys in the third case were symmetrically enlarged due to amyloidosis. Asymmetrical depressed scars, as found in chronic pyelonephritis, were not seen. Taking this evidence, together with the normal radiological findings in the 11 patients with bacteriuria, we can say that we have not encountered a single case of chronic pyelonephritis in our series.

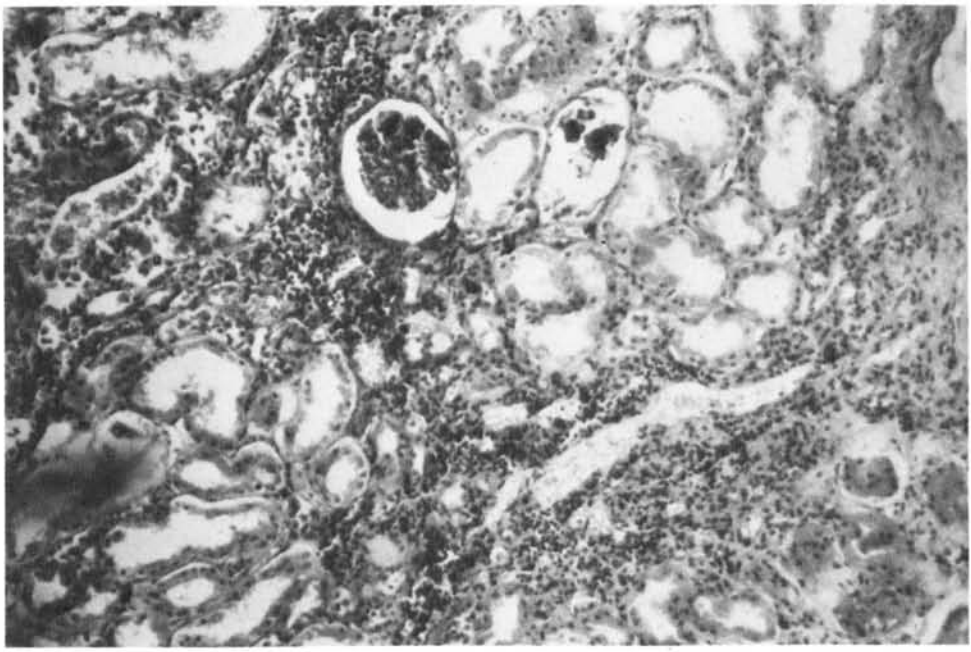

FIG. 1. Chronic interstitial nephritis showing heavy infiltration of chronic inflammatory cells, atrophied tubules, and one glomerulus with an intact tuft. The surviving tubules are dilated.

A study of renal biopsies and of post-mortem kidney specimens collected in England, Burma, and Malaysia, showed that the common renal conditions associated with leprosy are chronic glomerulonephritis, proliferative glomerulonephritis, amyloidosis, and interstitial nephritis ([10]). Heavy infiltration of chronic inflammatory cells in the interstitial tissue (interstitial nephritis, Fig. 1) was seen in 5 out of 24 specimens. These cases probably correspond to those reported as pyelonephritis by some workers. Such changes in leprosy may be due to consumption of large quantities of analgesic compounds, or to the intercurrent infections to which leprosy patients are prone. A recent study ([3]) of 49 leprosy patients and 30 normal controls revealed that 10 of the leprosy patients (20%) were unable to lower their urine pH below 5.5 in response to ammonium chloride stimulus, an acidification defect unrelated to the type of leprosy. As there is a relationship between renal tubular acidosis and peritubular lymphocytic infiltration ([8]) the finding of this type of infiltration in some of our renal specimens could be due to this acidification defect.

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