AAPP excretion in as much as they showed a number of features of "malignant rheumatoid arthritis" as described by de Sèze (1965). There was no correlation, however, between the abnormally raised AAPP excretion and the rheumatoid factor titre or the erythrocyte sedimentation rate. After a 3-year clinical follow-up these same six patients had shown an unrelenting course of their disease, without notable remission, on conventional treatments such as aspirin to tolerance, low dose steroids (≤ 10 mg. prednisone/day), and/or gold salts.

This test may thus provide a biochemical basis for the clinical diagnosis of "malignant rheumatoid arthritis" and may turn out to be of prognostic value.

Discussion.—DR. J. H. GLYN (*London*): Is it possible to state either from your work, or from previous published work, whether the administration of steroids in large doses will alter the excretion of mucopolysaccharides? It seems possible that some of the therapeutic effects of steroids in connective tissue pathology could be exerted on the ground substance.

DR. BITTER: I am afraid I cannot answer this question, as we investigated all patients (except five with SLE) before any steroid treatment was given.

DR. A. ST. J. DIXON (*Bath*): The trouble with excretion studies is that they reflect both the rate of production of the material you are studying and the rate of renal excretion. I am wondering whether it might not be a renal factor which is at fault, particularly in the lupus case. Have you any data on the clearance of this material?

DR. BITTER: Concerning the effect of renal disease on the rate of excretion of acid mucopolysaccharides, the data in the literature are scanty and contradictory. In amyloid renal disease, however, investigators agree that the excretion of these substances tends to be diminished. None of this series of patients with RA had clinically detectable renal disease, nor did those with various connective tissue diseases, nor did four out of the ten with SLE. Thus the data presented would not tend to suggest that the raised AAPP excretion found in a few patients was necessarily an expression of renal disease. Serum levels were not determined.

DR. W. CARSON DICK (*Glasgow*): First, have you had the opportunity of studying any of the rarer mucopolysaccharidoses; and secondly, have you examined the relationship between your method, older standard methods, and other indices of connective tissue metabolism, for example hydroxyproline excretion rates?

DR. BITTER: Yes. In fact the method had been first worked out to correlate the haematological findings in gargoylism with the urinary excretion of AAPP (Muir, Mittwoch, and Bitter, 1963), and to assess the latter as a diagnostic parameter in Morquio's disease (Bitter, Mittwoch, Muir, and Scott, 1966).

Hydroxyproline determinations were carried out in the (non-dialysed) urine of the patients and controls presented in this communication. However the reproducibility and predictability of this parameter does by no means approach that of the excretion rate of AAPP and Dr. Barbara Ansell kindly suggested that the former should not be included in the present communication.

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Chronic Fluoride Intoxication. By T. VISCHER (*Basel, Switzerland*): In some countries, fluorides are used tentatively in the treatment of osteoporosis, metastatic bone disease, and Paget's disease.

Fluoride influences bone formation and may lead, in higher dosage and with intake over longer periods, to fairly characteristic bone changes. Chronic fluoride intoxication seems to be a good model for studying the possible adverse effects of fluoride treatment. Recently we had the opportunity to examine elderly workers from an aluminium plant who had been exposed to cryolith dust for periods up to 50 years. Radiological evidence of chronic fluorosis of the bones was confirmed by histological examination and by determination of fluoride in the bone ash. Some patients complained of vague rheumatic pains, but no specific pattern could be established.

Discussion.—DR. J. H. GLYN (*London*): Are these changes reversible, if the subject is removed from the source of fluoridation?

DR. VISCHER: They are not reversible; I have the impression that they increase with time. This is probably a combination of degenerative changes and fluorotic changes.

PROF. E. G. L. BYWATERS (*Taplow*): I should like to ask if there were any cases in which the changes were confined to the spine, because it must be quite difficult to differentiate these changes from those of senile hyperostotic spondylosis, which is a normal accompaniment of old age. For instance, say in the thoracolumbar spine, was the ligament calcification visible on the right side only as in hyperostotic spondylosis?

DR. VISCHER: There was no difference in side. In addition all patients had more impressive changes peripherally.

A New Syndrome? By M. I. V. JAYSON (*Royal National Hospital for Rheumatic Diseases, Bath*): Conditions such as rheumatoid arthritis, gout, and osteoarthritis are well defined, but many patients present with recurrent aches and pains in whom no objective changes are found and in whom no specific diagnosis can be made.

Three patients with a long history of recurrent arthralgia but without physical signs of arthritis or laboratory