DR. ZAPHIROPOULOS The answer to the first question is no, we did not repeat them. We did measure the albumin level of all patients, both rheumatoid and nonrheumatoid, and they were very comparable. This is a criticism of the previous paper by Paulus and others where their patients with rheumatoid arthritis had lower levels of albumin and one was frankly hypoalbuminaemic. We thought that this may well have accounted for their findings of a wide range of plasma salicylate levels because these patients tended to have the lower plasma salicylate levels. We agree the number of patients was very small. Significance was not a point we were trying to make. We just had to compare two groups of patients, one with inflammatory and one with noninflammatory disease, and it just happened that the level of salicylates achieved on day 3 or 4 was very comparable.

DR. A. ST. J. DIXON (Bath) Should not conclusions with regard to aspirin toxicity be based on aspirin blood levels as well as salicylate blood levels? It is the aspirin which has not been hydrolysed by esterase which is responsible for a lot of the toxicity.

DR. ZAPHIROPOULOS This may be a point.

DR. D. I. HASLOCK (Middlesbrough) Did you just measure bulk salicylate levels or did you differentiate free and bound salicylate? Secondly there is recent evidence (Menguy, Desbaillets, Masters, and Okabe, 1972) of sex differences in salicylate metabolism. I wonder if any of your differences are explicable on the basis of patients's sex.

DR. ZAPHIROPOULOS We did not look at the differences on the basis of sex, the numbers were too small. We did not differentiate between bound and unbound plasma salicylates.

DR. A. G. MOWAT (Oxford) I wonder if I might come back to your albumin levels. You criticize Paulus because the values were lower in the rheumatoids but you can, of course, correlate the serum albumin value with the activity of the disease and so it may well be that if you got normal albumins you had relatively inactive rheumatoids.

DR. ZAPHIROPOULOS Yes, this is a fair point, except that four cases included in this study had, on clinical criteria, active rheumatoid arthritis. They had a normal range of plasma albumins, the lowest value being 3.4 g/100 ml. Paulus included patients who had albumins below 3.0 g/100 ml. This might have accounted for the wide variation of plasma salicylate levels noted in his patients. One must also take into account urine pH. This was a parameter not mentioned in Paulus's study. We tried to monitor urine pH continuously during the study and it did not vary a great deal. It was between 5.2 and 6.4 and we do know that renal clearance of free salicylate is sensitive to urine pH; it increases more than tenfold when urine pH changes from below 6.0 to above 7.0.

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Joint Involvement in Spondylo-epiphyseal Dysplasias. By M. F. KAHN, M. T. CORVOL, and S. DE SÈZE (*Centre Viggo Petersen, UER Lariboisière-Saint-Louis Université de Paris*)

Early osteoarthritis has been described as a usual feature of multiple (spondylo) epiphyseal dysplasias (MED). A reappraisal of the joint involvement in MED has been conducted on 30 cases seen in 10 years at Le Centre Viggo Petersen. For this study we concluded that the joint involvement in MED, when seen in early stages, should not be described just as osteoarthritis. Clinically, 6 of these cases presented as recurrent inflammatory polyarthropathies, superficially resembling rheumatoid arthritis, but with neither biological nor anatomical changes. 22 cases had several loose bodies in different joints associated with osteochondritis and geodic lesions of subchondral bones without cartilage narrowing or bone destruction. In 6 cases, a very peculiar vertebral disc lesion leading to vertebral fusion was seen.

Osteoarthritis, when present (18 cases), appeared to be secondary to the previous lesions, just as in metabolic arthropathies and Kaschin-Beck disease. We think that osteochondrodysplastic arthropathy deserves an autonomous description.

Discussion

DR. W. H. DE HAAS (Amsterdam) May I please show a few slides? This is a patient suffering from metaphyseal dysostosis, which of course is not quite the same as epiphyseal dysostosis. He is clearly dwarfed and his height is 4 foot. I would like to show you some x-rays of his bones and joints, comparing x-rays at age 10 and 44 years. On the left hand aged 10, and you will see that this has nearly completely normalized in the hand at age 44. The same goes for the feet, especially the calcaneal bones. This is the knee which shows a wild structure at age 10 and which has become nearly normal at age 44. The pelvis, which shows chaotic lesions which have cleared up on the next slide. So in patients suffering from these diseases one should not be too panicky and wait for some time, for bone may normalize completely and joint function be impaired only slightly.

PROF. E. G. BYWATERS (Taplow) With our interest in children I would like to enquire what were the radiological changes in the child Dr. Kahn showed at the age of 4 and the age of 10. What sort of radiological appearance would be seen to differentiate this syndrome in the young from juvenile rheumatoid arthritis?

DR. KAHN If you consider the peripheral lesions, it is quite simple at the early stages. In epiphyseal dysplasias, the deformations and the subchondral bone lesions are present whereas no cartilage narrowing can be seen. The problem is much more difficult in long duration patients. In the literature, I think that some patients reported as epiphyseal dysplasia were in fact juvenile rheumatoid arthritis, but even in the most difficult cases you may have the answer if you analyse the less afflicted joint, where the lesions are still typical. Of course, you get the answer easily if the vertebral lesions are present. No such radiological appearances can be found in juvenile rheumatoid arthritis.