trabeculae with reduced bone modelling seems to be the most likely aetiology.

According to the literature approximately 25 per cent. of the cases treated by early but prolonged non-weight-bearing (up to 4 years) appear to heal satisfactorily. In the Swiss study the results of conservative treatment were poor (only 4 per cent. good results). Varusation osteotomy combined with elimination of necrotic bone tissue and replacement by cancellous bone, with postoperative non-weight-bearing, was the best treatment for early cases (more than 80 per cent. had good or satisfactory results). In late cases, total replacement of the hip joint or arthrodesis gave the best results (90 per cent.). WAGNER reported excellent results with excision of the necrotic bone tissue and replacement by cancellous bone, combined with remodelling of the joint-forming bones and transplation of the two joint cartilages from cadavers.

Total Replacement Arthroplasty of the Knee in Rheumatoid Arthritis. By G. P. ARDEN, A. R. TAYLOR, and B. M. ANSELL (*Taplow*) Published in full in the *Annals* (1970), 29, 1

Osteoarthritis of the Hip Joint in Switzerland, in the United Kingdom, and in Jamaica, and its Relationship to Generalized Osteoarthritis. By J. S. LAWRENCE (*Manchester*) and W. M. ZINN (*Bad Ragaz*)

Several communities in Great Britain and one in Switzerland have been screened to determine the prevalence of osteoarthritis of the hip. For men the morbidity was identical in both countries, whilst Swiss women were significantly less affected. In Jamaica both sexes were less prone to clinical osteoarthritis of the hip, and the radiological changes were also less pronounced. The relationship between coxarthrosis and generalized osteoarthritis and the importance of physical strain arising from various types of work was examined.

Discussion

DR. TAILLARD (*Geneva*) May I ask whether there were any cases in which the aetiology of the osteoarthritis could be related to an antetorsion defect of the femoral neck as the sole cause. This is important for the paediatric orthopaedist and it comes into his mind every time he sees a child with severe knock-knees, where the physiological anteversion of the femoral neck present at birth has not corrected itself, or when he is faced with later lesions resulting in this defect of the femoral neck.

DR. KAUFMAN (*Zurich*) There were cases with increased antetorsion, most of them with abnormal acetabular angles and increased CCD angles, so that antetorsion alone could not be held responsible for the osteoarthritis of the hip.

DR. ZINN We particularly looked out for such cases but did not find a single one with isolated, greatly increased antetorsion.

DR. HACHENBRUCH (*Cologne*) Some x-ray appearances which simulate epiphyseal osteoarthritis of the hip are really of inflammatory origin, and dysplasia may

also be simulated by coxa valga through chronic inflammatory processes of early onset.

DR. NICOD (*Lausanne*) Although the antetorsion disappears over the years, it results in secondary deformity of the legs. It is therefore sometimes necessary to correct this deformity to avoid external rotation of the legs which leads to a static defect affecting both the knee and the foot.

Necrosis of the Femoral Head in Rheumatoid Arthritis. By E. N. GLICK (*London*)

In a previous paper it was reported that, of 199 hip joints with radiological abnormalities in a series of 358 patients with rheumatoid arthritis, 24 per cent. showed deformities of the femoral head. This series was divided into three groups, of which bone necrosis was one, and the present paper reports results obtained in the past 5 years.

Further experience suggests that bone necrosis is the major cause of these femoral head deformities and that in many cases the process seems identical with 'avascular necrosis' as reported in other conditions.

Steroid treatment or trauma may have contributed to the process in some cases, but similar changes appeared in hip joints without a history of either.

Atlanto-axial Subluxation. By J. A. MATHEWS (*London*) Published in full in the *Annals* (1969), 28, 260

Episcleritis and Scleritis. Their Association with Connective Tissue Disease. By A. J. LYNE and D. A. PITKEATHLY (*Manchester*)

Insufficient distinction is often made between episcleritis and scleritis and the same aetiology is ascribed to both. 86 cases of episcleritis and scleritis were examined for coexistent disease, with special emphasis on the group of connective tissue disorders. Five of 55 cases of episcleritis and 14 of 31 cases of scleritis were found to have associated connective tissue disease, rheumatoid arthritis being the commonest.

The patients suffering from scleritis had attacks which lasted longer. The palpebral area was affected more often in scleritis than in episcleritis and all the patients suffering from scleritis and rheumatoid arthritis showed scleral thinning which always affected the superior sclera.

The majority of cases of episcleritis had single attacks affecting the interpalpebral area and lasting less than three months, which suggests that minor trauma may be a factor in their causation.

Discussion

DR. WATSON (*Cambridge*) I should like to congratulate Dr. Pitkeathly and his colleagues on a very exciting survey, and to ask whether their questionnaire on allergy disclosed any association with episcleral abnormality? We have noted a considerable seasonal variation in episcleritis, particularly in the summer. My other point is that rosacea most certainly causes either episcleritis or