Follow-up Studies on Synovectomy of the Knee in Rheumatoid Arthritis. By S. D. DEODHAR, W. W. DOWNIE, P. A. FREEMAN, W. C. DICK, G. NUKI, K. WHALEY, and W. W. BUCHANAN (*Glasgow*).

145 patients who had had unilateral synovectomy of the knee for rheumatoid arthritis were studied. The duration of follow-up after operation ranged from 6 months to 5 years. Before operation and at the time of follow-up each patient was assessed with regard to the status of the knee and to his general health. The assessment consisted of a subjective enquiry about knee and other general articular symptoms, an objective evaluation of the knee, and a general assessment based on examination of the other joints. 83 per cent. of subjects considered that the operation had been successful, and this subjective assessment was supported by a significant reduction in knee joint symptoms such as pain at rest and in motion, and stiffness, and a general improvement in functional grade. Objective corroboration of local improvement was found in the significant reduction of synovial hypertrophy, effusion, and knee joint tenderness on pressure, and generally by a marked reduction in the articular index of joint tenderness. In this group also there was a significant fall in the erythrocyte sedimentation rate. The remaining 17 per cent. who claimed that the operation had been unsuccessful showed no improvement in the knee symptoms, deterioration in functional capacity, and no change in the general articular index. There was significant improvement in the objective evaluation of the operated knee with reduction of synovial hypertrophy, effusion, and local tenderness, but this was much less than in the successful group, and in addition the erythrocyte sedimentation rate remained unchanged.

In view of these findings, the authors consider that the postoperative course of a synovectomized joint depends on the evolution of the rheumatoid disease in general, namely that a successful synovectomy is probably the result of spontaneous remission of the disease process. There is no evidence from the present study to support the suggestion that synovectomy *per se* can influence the course of rheumatoid process.

Painful Juxtameniscal Areas in Certain Arthropathies of the Knee and Their Treatment by Juxtameniscal Cortisone Infiltration. By M. LEQUESNE, M. BENSASSON, C. KEMMER, and J. AMOUROUX (*Paris*).

Painful juxtameniscal areas have been observed in three conditions:

- (1) Certain post-traumatic meniscal lesions;
- (2) Meniscal degeneration;
- (3) Certain cases of osteoarthritis of the knee.

The pain is often felt on the inner side of the knee, more rarely on the outer side. It is of a spontaneous nature and brought on especially by pressure on a specific site. This pain appears to be connected with a conjunctivo-vascular reaction, more or less congestive, and even inflammatory, that develops at one or more points of the peripheral edge of the meniscus and penetrates the external portion which has been injured by trauma or degeneration.

The authors studied thirty cases of this type, all of which had the following in common:

- (1) A predominantly lateral pain in the knee;
- (2) A point frankly painful to pressure on the antero-lateral portion or at the median pole of the meniscus;
- (3) Pain provoked by one of the McMurray manoeuvres, by external or internal rotation (this is precisely the pain reported by the patient).

After various experimental procedures on cadavers, in which the juxtameniscal area was infiltrated with a dye substance, followed by similar injections of an opaque substance on a living subject under radioscopic control, the authors regularly used juxtameniscal infiltration with 1 ml. of a cortisone derivative into the most tender point. In thirty cases they obtained more than 80 per cent. very good or good results; complete disappearance or a marked decrease in pain. Usually one to three juxtameniscal infiltrations of this type were sufficient. Radiographical study with a contrast substance showed there was no intra-articular penetration. Moreover, many of these patients had received several intra-articular cortisone infiltrations without relief.

The meniscus itself is not sensitive to pain, being an organ with neither blood vessels nor nerves. It is the peripheral wall of the meniscus and the juxtameniscal region which become painful because of a reactive vascular site. Such inflammatory islets have been observed by the authors in operated cases apart from the series discussed here. This doubtless explains the consistent success of the direct infiltration of the painful site. No complications have arisen.

Some successful results in patients about to undergo meniscectomy and in those suffering from osteoarthritis of the knee were dramatic.

The follow-up period varied from a few months to several years. The improvement or disappearance of the pain was usually permanent, but in some cases relapse made it necessary to repeat the juxtameniscal infiltration at intervals. In only one case in the series was it necessary to perform meniscectomy because of persistent pain.

A Study *in vivo* of the Stiffness of the Human Knee. By R. GODDARD, D. DOWSON, and V. WRIGHT (*Leeds*).

An apparatus has been devised which permits the study of joint stiffness of the human knee *in vivo* by direct, objective measurement. This 'Arthrograph' has been used to investigate the physical nature of joint stiffness in rheological terms.

Normal subjects and those whose joints were affected by rheumatoid arthritis or osteoarthritis were studied.

Physiological variations in stiffness were studied with relation to age, sex, and temperature (both intra- and extra-articular).

For the first time the phenomenon of 'articular gelling' associated with osteoarthritis has been demonstrated by objective measurement and its physical nature investigated. By similar techniques the nature of 'morning stiffness' associated with rheumatoid arthritis has also been studied.

Serum Caeruloplasmin in Rheumatology. By H. ROUX, R. AQUARON, R. GRANGIER, and A. M. RECORDIER (*Marseille*).

The authors carried out determinations of serum caeruloplasmin by the Ravin technique. The values considered