(1973) that the A.R.A. criteria (Cohen, Reynolds, Franklin, Kulka, Ropes, Shulman, and Wallace, 1971) fit a classical population only. You chose a highly classical population by selecting those with DNA-binding, and you demonstrated that other patients whom you thought had S.L.E. did not fit the criteria. This is exactly what Fries and Siegel were saying. So these criteria may be very useful in selecting other patients in whom there is disagreement?

DR. DAVIS I think there is a significant difference in total percentages between those of Fries and Siegel and those in our reports. First of all we found a 91.8 per cent. correlation in cases of SLE as opposed to their 73 per cent. Theirs was, of course, a more sophisticated technique, using a computer bank and far more numbers. The second point is that, although our data are not yet complete, we have had the opportunity of analysing a number of cases of other connective tissue disorders and we have not found the number of false positives as high as that reported by Fries and Siegel; they found that approximately 19 per cent of cases of rheumatoid arthritis satisfied the criteria. We have not found that, with the one exception of a case of Felty's syndrome. I think that our findings are that these criteria are a useful basis on which further revisions can be made and that their specificity would be enhanced if DNA antibodies and complement levels were included as criteria.

PROF. V. WRIGHT (*Leeds*) One always feels about criteria like this that what one really needs is weighting; it is not meaningful to give equal weight to every criterion and there are statistical techniques which are available to do this. I wonder if either you or the American series have in fact done this?

DR. DAVIS No. When the criteria were drawn up they were specifically designed not to be weight-specific.

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Use of the MacIntosh Knee Arthroplasty in Patients with Rheumatoid Arthritis. By B. BLUM, A. G. MOWAT, G. BENTLEY, and J. R. MORRIS (*The Rheumatology Unit, University Departments of Medicine and Orthopaedic Surgery, University of Oxford, Nuffield Orthopaedic Centre, Headington, Oxford*)

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Gout, Hypertriglyceridaemia, and Alcohol Consumption. By T. J. GIBSON and R. GRAHAME (*Department of Rheumatology, Guy's Hospital, London*)

Attention has been drawn to an apparent association between hypertriglyceridaemia and gout (Feldman and Wallace, 1964; Darlington, Shaw, and Scott, 1971).

Since there is a known relationship between hypertriglyceridaemia on the one hand and obesity and excessive intake of alcohol on the other, the question arises whether the hyperlipidaemia seen in gouty subjects is related to their gout *per se* or whether it can be explained on the basis of the obesity or drinking habits that many of them display (Grahame and Scott, 1970).

In either case the pathogenic mechanism might be fatty infiltration of liver as reported in gouty subjects by Hennecke and Südhof (1970). This finding could explain the high incidence of abnormal bromsulphthalein retention seen in gout sufferers (Grahame, Haslam and Scott, 1968).

The present study was undertaken to investigate the problem further. Fasting triglyceride and cholesterol values in forty gouty subjects were compared with those observed in an equal number of abstemious controls matched for age, sex and ponderal index. Estimations of bromsulphthalein retention and urinary uric acid excretion on a low purine diet were also performed on the gouty patients.

A significant inverse correlation was found between serum triglyceride values and ponderal index in the gouty subjects ($r = -0.355$; $P < 0.05$). The mean fasting serum triglyceride level of the gouty subjects as a whole, however, was not significantly higher than that of the controls ($t = 1.72$; $P < 0.1$). Abnormal bromsulphthalein retention was found in fourteen (35 per cent) of the gouty patients, but there was no correlation between the percentage of bromsulphthalein retained and the serum triglyceride level.

Of the gouty subjects seventeen (42 per cent) were excessive drinkers of alcohol (defined as the consumption of more than 3 pints of beer daily or equivalent). The heavy drinkers had significantly higher triglyceride levels than both their matched controls ($t = 2.69$; $P < 0.025$) and the moderate or non-drinking gouty subjects ($t = 3.16$; $P < 0.01$). There was no correlation between abnormal bromsulphthalein retention and alcohol consumption, and the urinary uric acid values of the gouty subjects showed no correlation with serum triglyceride levels, alcohol consumption, or abnormal bromsulphthalein retention.

The results suggest that the fasting serum triglyceride values of gouty patients increase with obesity but do not differ from those of healthy subjects who have a similar range of adiposity. However, those gouty subjects who drink excessively do seem to have relatively higher triglyceride levels than non-drinking subjects with and without gout. This difference is not necessarily related to abnormal liver function.

Discussion

DR. G. R. V. HUGHES (*London*) Did you re-test your patients after a period of abstinence for urate and for triglyceride levels?

DR. GIBSON Its not easy to encourage the heavy drinkers of this world to give up their sustenance. Six patients volunteered to abstain from alcohol for 2 weeks or 4 weeks; three were frankly hypertriglyceridaemic and three had normal triglyceride levels. The three who abstained for 3 weeks showed quite definite falls in the levels of serum triglyceride. One resumed drinking and his triglyceride level rose again.

PROF. K. W. WALTON (*Birmingham*) In relation to the kind of correlation you were looking for between either obesity or drinking habits and triglyceride levels, surely it

is arguable that individuals may become obese because they are persistently hypertriglyceridaemic. If they have an excessive amount of fat circulating, they probably store more of it and become more obese as a result. In relation to alcohol, if they use this as a source of material to be converted into lipid, this just adds to the situation. Secondly, it has been suggested that some of the drugs which are effective in reducing hypertriglyceridaemia, like clofibrate and its derivatives, are also uricosuric; I wonder whether you have actually attempted treatment with any of these and what results you got.

DR. GIBSON We have not tried these. I think it would be true to say that workers such as Trevaks and Lovell (1965), who used Atromid to treat hyperuricaemia, found that they could not get consistent results and they certainly could not find a sustained uricosuric effect.

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Glenoidectomy: A Method of Treating the Painful Shoulder in Severe Rheumatoid Arthritis. By DENYS WAINWRIGHT (*North Staffs. Hospital Centre, Orthopaedic Hospital, Hartshill, Stoke-on-Trent, Staffs*)

The painful rheumatoid shoulder can be very disabling. Inability to raise the arm from the side or put the hand round to the small of the back or the back of the head is a serious handicap and there are many cases in which successful surgical treatment of the elbow, wrist, and hand in generalized rheumatoid arthritis has been rendered virtually ineffective because the slightest movement of the shoulder was painful. Although several attempts have been made to produce an artificial shoulder, these have not been particularly successful and many complications have been described.

This is a preliminary report on six cases of severe rheumatoid arthritic change in the shoulder which have been treated by a simple glenoidectomy or excision of the glenoid together with as much of the synovial membrane as can be achieved.

The operation is performed through a posterior incision. After partial synovectomy about $\frac{1}{2}$ – $\frac{3}{4}$ " of the glenoid and neck of the scapula is removed. The arm is immobilized on an abduction splint for 3 or 4 weeks. Active abduction from the horizontal position is started after 3 weeks and graduated exercises and rehabilitation are continued for several weeks.

The results so far have been encouraging and all but one of the patients are well pleased with the relief of pain. Passive shoulder movements are much increased and, although active abduction at the shoulder joint itself rarely amounts to more than 30°, the relief of pain enables scapular movements to be brought into play so that an active range of 60–80° is possible. Rotation movements are also improved, enabling the patient to reach the back of the neck and the lower part of the back.

The procedure is reserved for severely disorganized arthritic shoulder joints associated with the intractable

pain which often accompanies the slightest movement of the joint.

Discussion

DR. J. H. GLYN (*London*) Have you inspected any of these joints subsequently. Do you know what happens in the gap?

MR. WAINWRIGHT No, we haven't operated on them again at all.

DR. J. H. GLYN (*London*) And the longest follow-up?

MR. WAINWRIGHT Is 15 months. They have not deteriorated in any way.

DR. A. ST. J. DIXON (*Bath*) What do you think is the mechanism of the relief of pain? Is it that some ligament which was previously on a stretch has been released from the stretch, or it is due to the removal of the bone itself?

MR. WAINWRIGHT I think that our understanding of the cause of pain in the arthritic joint is very limited, but it is common experience, in any chronically inflamed joint, that when you release the tension by removing part of the bone on one side or the other, and in particular if you remove the inflamed synovial membrane as well, the pain is considerably relieved. I think the diminution of tension contributes to relief of pain.

DR. A. G. MOWAT (*Oxford*) We have had a little experience in the use of a Shier prosthesis which, as you know, involves the replacement of the humeral head and so is therefore a partial joint replacement. The range of motion achieved is similar to your own but then there are the complications of metal. We have found post-operatively that we have induced a partial frozen shoulder which has made it difficult to mobilize the shoulder for a month or so afterwards.

MR. WAINWRIGHT No. Our joints have remained very loose. The most impressive thing has been the painless range of passive movement. I think that if you put a prosthesis in you recreate the tension. On the whole, until we can devise a proper total replacement, there is not much point in persevering with an arthroplasty which replaces one side or the other of the joint.

DR. A. G. S. HILL (*Stoke Mandeville*) Returning to this question of pain, I wonder whether there is not a particular type of pain in arthritis which goes with eburnation and sclerosis of bone and exposure of bone to direct pressure without any cartilage intervening. Perhaps you are relieving pain by removing that situation, just as Dr. Mowat and his colleagues have relieved the pain by putting a MacIntosh plate into the knee.

MR. WAINWRIGHT When you expose the joint, and it is a very good exposure from the back which is very much easier than the front, you have an excellent view of the joint; the amount of destruction of cartilage is quite extraordinary in these very badly affected rheumatoid joints. The bone of the humeral head is very moth-eaten and is lying totally exposed to a rather moth-eaten glenoid.