acted positively with the heparin-latex test, 7 or about 43% were positive with the F II latex fixation test.

It was interesting, however, to note that many of the rheumatoid serums reacting in the heparin-latex test had α-globulin levels well within the normal range.

Little is known about the possible mechanism of the agglutination-promoting activity of heparin. It may have no real biological meaning, but may, as Gofton and co-workers have pointed out, merely represent ability of these strongly negatively charged heparin molecules to react non-specifically with or bring together at a nidus, the patient's own α-globulin and rheumatoid factor. It has been reported that under certain conditions heparin may precipitate fibrinogen(2). In our series, however, serums were used throughout. Certain beta-lipoproteins have also been reported to be precipitated by heparin(3). In the few cases tested in our study no differences in this class of substances could be detected.

Summary. The rather high incidence of false-positive results with serums containing elevated α-globulin levels, limits the practical value of the heparin-latex test for routine testing in rheumatoid arthritis.

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Hexosamine-Collagen Ratio of Skin Biopsies in Patients Receiving Systemic Corticosteroids.* (25431)

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The basic principles which led to the study of hexosamine-collagen ratio (H/C) in human skin biopsies have been described(1). Since collagen is metabolically relatively inert and the hexosamine-containing polysaccharides of the ground substance are part of the metabolic pool, H/C decreases in starvation and after cortisone administration in the rat(2). This effect of cortisone occurs in skin, bone, lung and aorta(3). A technic has been developed for determination of H/C on small dermal punch biopsies from humans and has been applied in a study on the effects of aging(1). It was reported that log H/C falls in a linear fashion with age. This technic has now been applied to patients receiving therapeutic doses of corticosteroids.

Methods. Procedure for obtaining dermal punch biopsies and the analytical methods have been previously described(1). Subjects for the present study were male patients hospitalized on the dermatological service of Veterans Administration Center with a variety of conditions such as psoriasis, exfoliative dermatitis, atopic dermatitis, dysidrosis, etc. No patients were acutely ill nor were they suffering from known metabolic or endocrinological disturbances. The drugs used were prednisone, methyl prednisilone and triamcinalone. These were administered orally in divided doses daily for 2 weeks. The dosage varied depending on clinical requirement of the patient. The average daily dose was 15 to 20 mg for prednisone and 12 to 16 mg for methyl prednisilone and triamcinalone. Biopsies were obtained just prior to and again after 2 weeks of therapy. The area of buttocks from which biopsies were taken was not involved with the patient's skin disease.

Results. A total of 41 sets of biopsies were obtained. H/C values for 40 patients ranged from .042 to .020, initially. One patient, 67-year-old man with atopic dermatitis, had an H/C value of .053, considerably greater than

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that expected for this age(1). Following 2 weeks of steroid therapy the following changes were observed: a) 32 exhibited decreased H/C values of 5% or greater. In 29 of these the losses did not exceed 30%, in 3, decreases of −43%, −63% and −69% were obtained (the latter due to the individual mentioned above): b) 6 had changes of less than 5%;† c) 3 had increased values (+23%, +10%, +34%). It is of additional interest in the case of the latter that pretreatment H/C values were .027, .020, .023 respectively, values expected for aged individuals(1). The latter 2 H/C values were the lowest pretreatment values in the series. The significance of the increased values following corticoid treatment is not clear and has not been observed in rats(2,3). The mean percent change in H/C values for 35 subjects (exclusive of the 3 who exhibited exceptionally large decreases and the 3 who exhibited increases) was −12.9% ±1.5%.‡

Discussion. In general H/C of dermal punch biopsies decreased following corticoid therapy. This had been previously observed in the rat following starvation and administration of cortisone(2). Since the dose of corticoids administered to patients was based upon clinical requirements, the effect of graded doses upon H/C could not be determined. The wide range in response of H/C seemed to be due to individual variation and not to choice of steroid employed. There appeared to be no correlation between clinical response of patient to the corticoid and decrease in H/C. Since the decrease in H/C in the rat following cortisone administration precedes a large decrease in body nitrogen, the change in ratio in the human might likewise presage other metabolic events. This suggests employment of this technic as an adjunct in tests used for the screening of new steroid therapeutic agents prior to clinical application. Decrease in H/C occurs in the rat in other connective tissue-rich organs in addition to the skin(3). The findings suggest that in man the composition of the ground substance of lung, blood vessels and bone is affected as well.

Summary. Dermal punch biopsies were obtained from 41 subjects prior to and following 2 weeks of daily medication with prednisone, methyl prednisilone or triamcinalone. The hexosamine-collagen ratio (H/C) was determined. In 32 subjects decrease in H/C values of 5% or greater were observed. The mean change in H/C in 35 patients following corticoid treatment was −12.9% ±1.5%.

Analysis of skin punches for hexosamine and collagen was carried out by George Bonorris.

† This classification was established because in previous experience obtained with multiple biopsies from rats and dogs taken concurrently or on different days from the same region of skin, values of H/C did not exceed ±5% of the mean. It was considered clinically unjustifiable to obtain more than one punch at a time in human subjects and consequently this same technical error is assumed.

‡ Standard error.

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Local Action of Oxytocin on Mammary Glands of Postpartum Rats After Litter Removal.*† (25432)

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Petersen(1) first suggested that oxytocin may stimulate release of prolactin by the anterior hypophysis and thereby initiate lacta-

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