The drug regularly induces amenorrhea, and androgenic side effects include hirsutism, acne, diminished breast size, and voice deepening. Rheumatic complications heretofore have not been described. This report concerns a patient who developed bilateral carpal tunnel syndrome (CTS) and a monarticular synovitis following the institution of Danazol; both disorders resolved promptly after drug cessation.

A 31-year-old Caucasian female had laparoscopic evaluation for infertility, at which time pelvic endometriosis was diagnosed. Danazol 800 mg daily was begun in March 1977 for an anticipated six month course.

Paresthesias and nocturnal dysesthesias involving the radial three fingers of both hands developed one month later. Phalen's and Tinel's signs were elicited bilaterally. Hypesthesia, thenar atrophy, and opponens pollicis weakness were absent, and the results of the remainder of the physical examination were normal. Paresthesias persisted, and painful swelling and stiffness of the right knee were noted one month later. Trauma, knee locking or buckling, other articular symptoms, morning stiffness, Raynaud's phenomenon, alopecia, oral ulcers, skin rash, previous pleurisy, cold sensitivity, muscle weakness, dysphagia, regurgitation, diarrhea, and a family history of inflammatory rheumatic disease were denied. Examination revealed a warm right knee with a palpable effusion and a 20 degree loss of full flexion; the knee was stable and McMurray's sign was absent.

The following studies were normal or negative: chest and right knee roentgenograms, CBC, urinalysis, Westergren sedimentation rate, serum rheumatoid factor (latex fixation), antinuclear antibody, C3 and C4 (immunodiffusion), thyroxine, uric acid, calcium, phosphorus, cholesterol, creatinine, and SGOT. Arthrocentesis yielded 12 ml of yellow, clear, viscous fluid with a fair mucin clot; WBC count was 650 cells/mm^3 (80% mononuclear); no crystals were found; routine bacterial culture revealed no growth. Joint pain, stiffness, and effusion rapidly recurred. Danazol was discontinued as planned four months later in September 1977. Both hand paresthesias and knee synovitis resolved within a week. The patient was not rechallenged with Danazol and has remained well over the ensuing four months.

The diagnosis of CTS was supported by characteristic symptoms and signs of median nerve compression at the wrist. Most cases of CTS are idiopathic, although it may accompany pregnancy and a variety of endocrinologic and rheumatic disorders (2). Diabetes mellitus, hypothyroidism, and other systemic diseases associated with CTS were excluded in the present instance by clinical examination and laboratory studies. Similarly, monarticular arthritis of the right knee was noninflammatory in nature and was unassociated with other manifestations of collagen vascular disorders. However, both rheumatic processes may have been early and transient features of an unidentified systemic disease.

Interestingly, both pregnancy and oral contraceptive use, characterized by FSH and LH suppression, may be associated with CTS (3,4). Although fortuitous concurrence cannot be ruled out, the close temporal relation between drug administration and onset and the subsequent resolution of CTS and knee effusion suggest an etiologic relationship. With increasing use of Danazol, similar articular and paraarticular disorders may be recognized.

ROBERT G. GRAY, M.D.
Department of Medicine
Baystate Medical Center
Springfield, MA 01103

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Treatment of Osteoarthritis with Rumalon R

To the Editor:

Osteoarthritis is engendered by failure of reparative processes in the cartilage. The earliest lesion is in the ground substance, an alteration in staining signifying loss of mucopolysaccharides or glycosaminoglycans (1). The end stage of osteoarthritis is characterized by loss of cartilage and erosion of underlying bone. Heretofore, no chemotherapeutic agent has corrected the biochemical defects of osteoarthritis and restored the afflicted joint in appearance and function.

In four of twenty patients with osteoarthritis of the hip treated for prolonged periods with an extract of

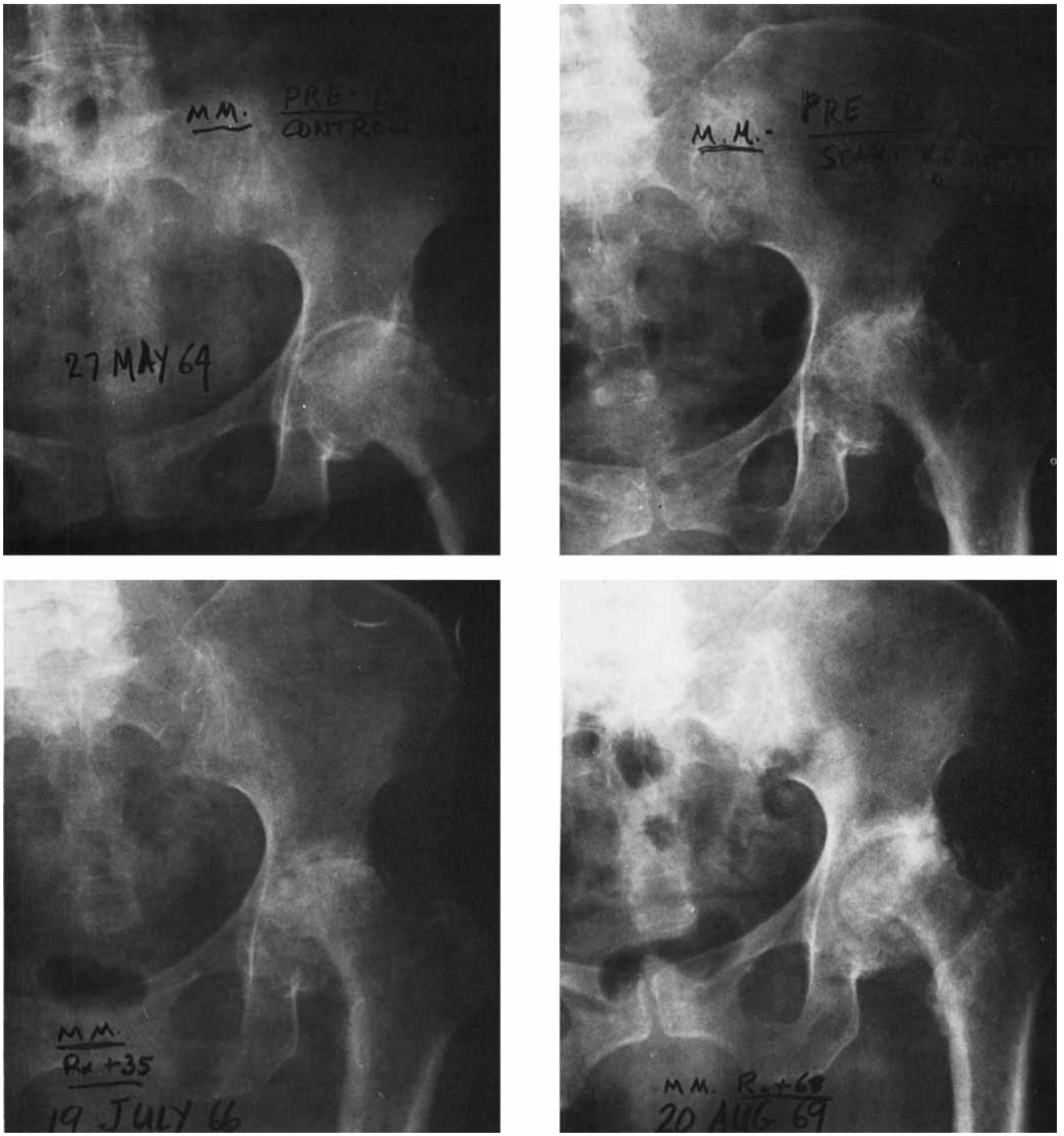

Figure 1. *Degenerative arthritis of hip during treatment with cartilage-bone marrow extract. Hip x-rays of MM, a 65-year-old female.* **A.** *Control period May 1964: patient is treated with usual antirheumatic drugs.* **B.** *Control period November 1965: cartilage-bone marrow extract (Rumalon R), 1 ml IM a week, treatment begun one month after this x-ray.* **C.** *and* **D.** *Treatment period December 1965 through August 1969: 68 injections of cartilage-bone marrow extract (Rumalon R) were given in the following manner: 1 ml/wk × 20, + 1.5 ml/wk × 30, + 1.5 ml/2 wks×4, + 1.5 ml once in 5 months, + 1.5 ml/month × 5, + 1.5 ml/injection × 8 at irregular intervals of 2 to 3 months over 20 months.*

bone marrow and cartilage (Rumalon R) there occurred definite evidence by roentgenography of restored joint space and regrowth of bone (2). No significant toxicity was found in any patient. A series of photographs of one patient is presented to illustrate the type of response that was obtained with this tissue extract. This patient is selected because she was observed during a control period in which she received the usual antirheumatic drugs, such as salicylates and indomethacin. She illustrates the most dramatic response and has the longest follow-up. During 19 months of controlled observation illustrated by the first two x-rays she had loss of cartilage and bone with increasing clinical deterioration (Figure 1A and B). During a comparable 20 months she improved while receiving intramuscular injections 1 to 1.5 ml of Rumalon R (3.5 mg extract of cartilage and 3 mg extract of bone marrow per ml). Improvement in x-rays was accompanied by clinical improvement (Figure 1C and D). She remains free of hip pain 7 years after treatment ended.

CHARLES W. DENKO, PH.D., M.D.
Scott Research Laboratory
Fairview General Hospital
Department of Medicine
Case Western Reserve University
Cleveland, Ohio 44111

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