

MISCELLANEOUS RHEUMATIC CONDITIONS

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(Updated by Raphael J. DeHoratius MD, Elena Flagg MD, Andra Showalter, MD; 2002)

ENDOCRINE ASSOCIATED RHEUMATIC DISEASES

General Articles

1. Bland, JH, Frymoyer, JW, Newberg, AH, et al: Rheumatic Syndromes in Endocrine Disease.
Semin Arthritis Rheum. 9:23-65, 1979.

Diabetes Mellitus

2. Sequeira, W. The Neuropathic Joint. Clin Exper Rheumatol. 12:325-337, 1994

An overall review of the pathogenesis, diagnosis, and treatment of neuropathic joints.

3. Cavanagh, PR, Vickers, KL, Young, MJ, et al: Radiographic Abnormalities in the Feet of Patients with Diabetic Neuropathy. Diabetes Care. 17:201-209, 1994.

A good review of radiologic abnormalities in patients with diabetes mellitus and the importance of neuropathy in the changes.

4. Rocca, PV, Alloway, JA, and Nashel, DJ: Diabetic Muscular Infarction. Semin Arthritis Rheum. 22:280-287, 1993.

A review of the pathophysiology of this condition in poorly controlled diabetics with atherosclerotic cardiovascular disease.

5. Lundback, K: Stiff Hands in Long-Term Diabetes. Acta Med Scand 158:447-451, 1957.

First description of limited joint mobility in diabetes mellitus.

Thyroid Disease

6. Diamond, T, Vine, J, Smart, R et al: Thyrotoxic Bone Disease in Women: A Potentially Reversible Disorder. *Ann Intern Med* 120:8-11, 1994.
7. Wakasugi, M, Wakao, R, Tawata, M, et al: Change in Bone Mineral Density in Patients with Hyperthyroidism After Attainment of Euthyroidism by Dual Energy X-Ray Absorptiometry. *Thyroid* 4:179-182, 1994.
8. Schneider, DL, Barrett-Connor, EL, and Morton, DJ: Thyroid Hormone and Bone Mineral Density in Elderly Women. *J Amer Med Assoc* 271:1245-1249, 1994.

The above three papers cover controversies in osteoporosis development in endogenous and iatrogenic hyperthyroidism as well as the relationship to menopause.

9. Golding, DN: Rheumatism and the Thyroid. *Jour Roy Soc Med* 86:130-132, 1993.

An overall review of the rheumatic disorders associated with diseases of the thyroid gland.

10. McLean, RM, and Podell, DN: Bone and Joint Manifestations of Hypothyroidism. *Semin Arthritis Rheum* 24:282-290, 1995.
11. Paggi, A, Caccavo, D, Ferri, GM, et al: Anti-cardiolipin Antibodies in Autoimmune Thyroid Disease. *Clin Endocrinol* 40:329-333, 1994.

Besides ANA, patients with thyroiditis can also have anti-cardiolipin antibodies thus producing a "lupus like" picture.

Pituitary Diseases

12. Aghast, S, Forster, MJ, Bercktoold, P, et al: Acromegaly: Clinical and Biochemical Features in 500 Patients. *Medicine* 73:233-240, 1994.

13. Jaffe, CA, and Barkan, AL: Acromegaly: Recognition and Treatment. *Drugs* 47:425-445, 1994.

14. Lieberman, SA, Bjorkengren, AG, and Hoffman, AR: Rheumatologic and Skeletal Changes in Acromegaly. *Endocrinol Metab Clin NA*. 21:615-631, 1992.

Three excellent reviews of the clinical manifestations and treatment of acromegaly.

15. Wustar, C: Growth Hormone and Bone Metabolism. *Acta Endocrinol* 128 (Suppl 2) 14-18, 1993.

A review of growth hormone and osteoporosis.

16. Schlechte, J, Walker, L, and Kathol, M: A Longitudinal Analysis of Premenopausal Bone Loss in Healthy Women with Hyperprolactinemia. *J Clin Endocrinol Metab* 75:698-703, 1992.

Spinal osteoporosis occurs in hyperprolactinemia.

17. Lichniak, JE: The Heel in Systemic Disease. *Clin Pod Med and Surg* 7:225-241, 1990.

An exhaustive review of the differential diagnosis of heel pain.

HEMATOLOGIC/ONCOLOGIC-ASSOCIATED RHEUMATIC DISEASES

General Review Articles

18. Mellekjaer L, Linet MS, Gridley G, et al. Rheumatoid Arthritis and Cancer Risk. *Eur J Cancer* 32A:1753-1757, 1996.

A total of 20,699 patients were studied from diagnosis of R.A. until death or 1991. cancer rates were compared with the expected population rates. Results suggest that R.A. patients are at increased risk for developing non-Hodgkin's lymphoma, Hodgkin's lymphoma, and lung cancer.

19. Naschitz, JE, Rosner, I, Rozenbaum, M, et al: Cancer Associated Rheumatic Disorders: Clues to Occult Neoplasia. *Semin Arthritis Rheum* 24:231-241, 1995.
20. Naschitz, JE, Yeshurun, D, Rosner, I: Rheumatic Manifestations of Occult Cancer. *Cancer* 75:2954-2958, 1995.

The above two articles are good reviews of this association with a prospective analysis.

Leukemic Arthritis

21. Evans, TI, Nercessian, BM, and Sanders, KM: Leukemic Arthritis. *Semin Arthritis Rheum* 24:48-56, 1994.

A review of previously published papers on this topic.

22. Rennie, JAN, and Auchterlonie, IA: Rheumatologic Manifestations of the Leukemias and Graft Versus Host Disease. *Balliere's Clin Rheumatol* 5:231-251, 1991.

Comparison of bone pain in children versus adults with leukemia.

23. Bourantas, K, Malamou-Mitsi, VD, Christou, L, et al: Cutaneous Vasculitis as the Initial Manifestation in Acute Myelomonocytic Leukemia. *Ann Intern Med* 121:942-944, 1994.

Cutaneous vasculitis may precede the onset of leukemia by two to eight months.

24. Cuende, E, Arbadillo, C, Mazzucchelli, RE, et al: Candida Arthritis in Adult Patients Who are Not Intravenous Drug Addicts: Report of Three

Cases and Review of the Literature. Semin Arthritis Rheum 22:224-241, 1993.

An emphasis on the occurrence of fungal arthritis in patients with leukemia due to immune compromise.

Lymphoproliferative Disorders

Lymphoma

25. McDonagh, JE, Clarke, F, Smith, SR, et al: Non Hodgkin's Lymphoma Presenting as Polyarthritis. Brit J Rheumatol 33:79-84, 1994.

An excellent discussion of this manifestation with review of the literature.

26. Salloum E, Cooper DL, Howe G, et al. Spontaneous regression of lymphoproliferative disorders in patients treated with methotrexate for rheumatoid arthritis and other rheumatic diseases. J Clin Oncol 14:1943-1949, 1996.

Review of the literature; Patients with R.A. who have lymphomas develop while being treated with methotrexate show regression of lymphoma when MTX is withdrawn

27. Lim MS, Straus SE, Dale JK, et al. Pathological findings in human autoimmune lymphoproliferative syndrome. Am J Pathol 153:1541-1550, 1998.

A diagnosis of A.I. lymphoproliferative syndrome is suggested by histopathology and immunophenotyping.

Multiple Myeloma

28. Duna, GF, and Cash, JM: Rheumatic manifestations of dysproteinemia and lymphoproliferative disorders. Rheum Dis Clin North Am 22:39-51, 1996.

A review of the manifestations of dysproteinemia including rheumatic diseases and POEMS.

Hemophilia

29. Gregg-Smith, SJ, Pattison, RM, Dodd, CA, et al: Septic Arthritis in Hemophilia. J Bone Joint Surg Br 75:368-370, 1993.

A discussion of septic arthritis in hemophilia and the relationship to the HIV.

30. Gilbert, MS, Aledort, LM, Seremetis, S, et al: Long Term Evaluation of Septic Arthritis in Hemophilic Patients. Clin Orthop 328:54-59, 1996.

A large series demonstrating that early diagnosis is the best predictor of joint function.

31. Nuss, R, Kilcoyne, RF, Geraghty, S, et al: Utility of Magnetic Resonance Imaging for Management of Hemophilic Arthropathy in Children. J Pediatr 123:388-392, 1993.

MRI can alter the course of therapy to synovectomy versus conservative therapy.

32. Tagland, JC, Tjonnfjord, GE, Evenson, SA, et al: Knee Arthroplasty in Hemophilia. Acta Orthop Scand 64:153-156, 1993.

33. Greene, WB: Synovectomy of the Ankle for Hemophilic Arthropathy. J Bone Joint Surg Am 76:812-819, 1994.

The above two papers are examples of how surgery, if used properly, can improve outcome.

34. Fernandez-Palazzi, RS, Cibeira, JL, Dib, O, et al: Radioactive Synovectomy in Hemophilic

Arthropathy. Clin Orthop 328:14-18, 1996.

A long term study from one center demonstrating the efficacy and benefits of this non surgical approach to hemophilic arthropathy.

Sickle-Cell Disease

35. Porter, DR, and Sturrock, RD: Rheumatologic Complications of Sickle Cell Disease. Balliere's Clin Rheumatol 5:221-230, 1991.

A good review of all the manifestation that can occur in sickle cell disease.

36. Anand, AJ, and Glatt, AE: Salmonella Osteomyelitis and Arthritis in Sickle Cell Disease. Semin Arthritis Rheum 24:211-221, 1994.

A comprehensive review of this important association.

Thalassemia

37. Arman, MI, Butun, B, Doseyen, A, et al: Frequency and Features of Rheumatic Findings in Thalassemia Minor: A Blind Controlled Study. Br J Rheumatol 31:197-199, 1992.

Myelodysplastic and Myeloproliferative Diseases

38. Chandran, G and Ahern, MJ: Rheumatic Manifestations of the Myelodysplastic Syndromes: a Comparative Study. Aust N Z J Med 26:683-688, 1996.

A large retrospective study with comparison between the two conditions.

39. Ohno E, Ohtsuka E, Watanabe K, et al. Behcet's Disease associated with myelodysplastic syndromes. Cancer 79: 262-268, 1997.

Review of literature

40. Philippe B, Couderc L-J, Droz D, et al. Systemic vasculitis and myelodysplastic syndrome. *Arthritis and Rheum* 40:179-182, 1997.

A series of 2 case reports

NEOPLASMS ASSOCIATED WITH RHEUMATIC SYNDROMES

41. Tatsis E, Reinhold-Keller E, Steindorf K, et al. Wegener's Granulomatosis associated with renal cell carcinoma. *Arthritis Rheum* 42:751-756, 1999.

A retrospective study of malignancies possibly associated with WG and the occurrence of the WG autoantigen (proteinase 3).

42. Cibere J, Sibley J, Haga M. Rheumatoid Arthritis and the risk of malignancy. *Arthritis and Rheum* 40: 1580-1586, 1997.

862 patients with rheumatoid arthritis were followed up for up to 35 years. An increased risk of leukemia was confirmed as well as a decreased risk in colorectal cancer. An overall decrease in cancer risk was noted in this cohort.

43. Tada Y, Sato H, Yoshizawa S, et al. Remitting seronegative symmetrical synovitis with pitting edema associated with gastric carcinoma.

The first case report of RS3PE.

44. Munn, RK, Pierce, ST, Sloan, D, et al: Malignant Joint Effusions Secondary to Solid Tumor Metastasis. *J Rheumatol* 22:973-975, 1995.

A solid review of the literature regarding this association.

45. Humphrey, SM, and Inman, RD: Metastatic Adenocarcinoma Mimicking Unilateral Sacroiliitis. *J*

Rheumatol 22:970-972, 1995.

46. Kawasaki, T, Hirohata, S, Hashimoto, T, et al: T Cell Lymphoma Masquerading as Adult-Onset Still's Disease. Clin Exp Rheumatol 13:410-411, 1995.
47. Scuttalari, PN, Orzincolo, C, Castaldi, G: Association Between Diffuse Idiopathic Skeletal Hyperostosis and Multiple Myeloma. Skeletal Radiol 24:489-492, 1995.

METABOLIC DISORDERS

Sarcoidosis

48. Barnard, MA and Newman L: Sarcoidosis: Immunology, Rheumatic Involvement, and Therapeutics. Curr Opin Rheum 13:84-91, 2001.

Update on sarcoidosis.

49. Baltzan M, Mehta S, Kirkhan TH, et al: Randomized trial of Prolonged Chloroquine Therapy in Advance Pulmonary Sardoiosis. Am J Respir Crit Care Med 160:192-197, 1999.

This study evaluates maintenance therapy for chronic sarcoidosis, showing that the progression of pulmonary symptoms/PFTs is less in patients on maintenance therapy with chloroquine.

50. Newman, LS, Rose, CS, and Maier, LA: Sarcoidosis. N Engl J Med 336:1224-1234, 1997.

A comprehensive review of all the aspects of sarcoidosis.

51. Gran, JT, and Bohmer, E: Acute Sarcoid Arthritis: A Favourable Outcome? A Retrospective Survey of 49 Patients with a Review of the Literature. Scand J Rheumatol 25:70-73, 1996.

Acute sarcoid arthritis is a self limited condition in the majority of cases and a common cause of oligoarthritis in young people.

52. Glennas, A, Kvien, TK, Melby, K, et al: Acute Sarcoid Arthritis: Occurrence, Seasonal Onset, Clinical Features, and Outcome. *Br J Rheumatol* 35:45-50, 1995.

Hyperlipidemia

53. Careless, DJ and Cohen, MG: Rheumatic Manifestations of Hyperlipidemia and Antihyperlipidemia Drug Therapy. *Semin Arthritis Rheum* 23:90-98, 1993

A comprehensive discussion of the conflicting reports in the literature. Reinforces the association of Type II with achilles tendinitis and Type IV with gout and oligoarthritis. The hydroxymethylglutaryl-coenzyme A reductase inhibitors and the fibric acid derivatives are most frequently associated with proximal myopathy and a "lupus like" syndrome.

54. Klemp, P, Halland, AM, Majoos, FL, et al: Musculoskeletal Manifestations in Hyperlipidemia: A Controlled Study. *Ann Rheum Dis* 52:44-48, 1993.

Hemochromatosis

55. Kempis J: Arthropathy in Hereditary Hemochromatosis. *Curr Opin Rheum* 13:8083, 2001.

Review of genetics and arthropathy in hemochromatosis.

56. Conrad, ME, Umbreit, JN, Moore, EG, et al: Hereditary Hemochromatosis: A Prevalent Disorder of Iron Metabolism with an Elusive Etiology. *Am J Hematol* 47:218-224, 1994.

A common disorder with an estimated frequency of 0.2 to 0.45% in Caucasians. The genetic defect is on chromosome 6 in close association with HLA antigens. The role of TNF is also discussed.

57. Faraawi, R, Harth, M, Kertesz, A, et al: Arthritis in Hemachromatosis. J Rheumatol 20:448-452, 1993.

A retrospective review of patients with hemachromatosis and their relatives demonstrating the frequency of arthritis in this condition.

58. Axford, JS: Rheumatic Manifestations of Hemochromatosis. Ballieres Clin Rheumatol 5:351-365, 1991.

A comprehensive review article.

59. Fomberstein, B, Yerra, N, and Pitchumoni, CS: Rheumatologic Complications of GI Disorders. Am J Gastroenterol 91:1090-1103, 1996.

A comprehensive review of the arthropathy of hemachromatosis as well as other GI entities associated with arthritis.

Ochronosis

60. La Du, BN, Jr: Alcaptonuria and Ochronotic Arthritis. Mol Biol Med 8:31-38, 1991.

A review of this disorder with discussion of the various types of arthritis that can occur.

Wilson's Disease

61. Kramer, U, Weinberger, A, Yarom, R, et al: Synovial Copper Deposition as a Possible Explanation of Arthropathy in Wilson's Disease. Bull Hosp Jt Dis 52:46-49, 1993.

A review of the arthropathy of Wilson's disease.

ARTHRITIS AND SKIN DISEASE

62. Reith, JD, Bauer, TW, Schils, JP: Osseous Manifestations of SAPHO (synovitis, acne, pustulosis, hyperostosis, osteitis) Syndrome. *Amer J Surg Path* 20:1368-1377, 1996.

63. Laasonen, LS, Karvonen, SL, Reunala, TL: Bone Disease in Adolescents with Acne Fulminans and Severe Cystic Acne: Radiologic and Scitigraphic Findings. *Amer J Roengenol* 162:1161-1165, 1994.

Reviews of the associations of these syndrome.

64. Kemmett, D, Hunter, JA: Sweet's Syndrome: A Clinicopathologic Review of Twenty-Nine Cases. *J Am Acad Dermatol* 23:503-507, 1990

OSTEONECROSIS

65. Mankin, HJ: Nontraumatic Necrosis of Bone (Osteonecrosis). *N Engl J Med* 326:1473-1479, 1992.

HYPERTROPHIC PULMONARY OSTEOARTHROPATHY

66. Matucci-Cerinic, M, Lotti, T, Jajic, I, et al: The Clinical Spectrum of Pachydermoperiostosis (Primary Hypertrophic Osteoarthropathy). *Medicine* 91:208-214, 1991

FROZEN SHOULDER AND REFLEX SYMPATHETIC DYSTROPHY SYNDROME

67. van Hilten B. J., van de Beek W.-J. T., Hoff J. I., Voormolen J. H.C. et al: Intrathecal Baclofen for the Treatment of Dystonia in Patients with Reflex Sympathetic Dystrophy, *N Engl J Med*, 343:625-630, 2000.

Dystonia associated with RSD responds to intrathecal baclofen in some cases.

68. Kemler M, Barendse G, van Kleef M, et al: Spinal Cord Stimulation in

Patients with Chronic Reflex Sympathetic Dystrophy. *N Engl J of Med*, 343: 618-24, 2000.

Randomized, controlled trial showing electrical stimulation of the spinal cord in certain patients with RSD can decrease pain.

69. Rizk TE, Pinals RS. Frozen shoulder. *Sem Arthritis Rheum* 11:440-452, 1982.

70. Kozin F, McCarty DJ, Sims J, et al. The reflex sympathetic dystrophy syndrome. I. Clinical and histologic studies: evidence for bilaterality, response to corticosteroids and articular involvement. *Am J Med* 60:321-331, 1976.

71. Kozin F, Genant HK, Bekerman C, et al. The reflex sympathetic dystrophy syndrome. II. Roentgenographic and scintigraphic evidence of bilaterality and of periarticular accentuation. *Am J Med* 60:332-338, 1976.

72. Kozin F, Ryan LM, Caverria GF, *et al.* The reflex sympathetic dystrophy syndrome. III. Scintigraphic studies, further evidence for the therapeutic efficacy of systemic corticosteroids, and proposed diagnostic criteria. *Am J Med* 70:23-30, 1981.

MISCELLANEOUS RHEUMATIC SYNDROMES

73. McCarty DJ, O'Duffy JD, Pearson L, *et al.* Remitting seronegative symmetrical synovitis with pitting edema. *JAMA* 254:2763-2767, 1985.

74. Campbell DA, Edwards NL. Multicentric reticulohistiocytosis: a systemic macrophage disorder. *Bailliere's Clin Rheumatol* 5:301-319, 1991.

75. Kahn MF, Cahmot AM. SAPHO syndrome. *Rheum Dis Clin N Am* 18:225-246, 1992.

76. Sethi D, Morgan TCN, Brown EA, *et al.* Dialysis arthropathy: a clinical, biochemical, radiological and histological study of 36 patients. *Quarterly J Med* 77:1061-1082, 1990.

77. Panush RS. Food induced ("allergic") arthritis: clinical and serologic studies. *J Rheumatol* 17:291-294, 1990.
78. Fam AG, Rubinstein JD, Cowan DH. POEMS syndrome. *Arthritis Rheum* 29:233-241, 1986.
79. Maurice H, Crone M, Watt I. Synovial Chondromatosis. *J Bone Joint Surg* 70-B:807-811, 1988.
80. Reginato AJ, Ferreiro JL, O'Connor CR, *et al.* Clinical and pathologic studies of twenty-six patients with penetrating foreign body injury to joint, bursae, and tendon sheaths. *Arthritis Rheum* 33:1753-1762, 1990.
81. Saghafi M, Henderson J, Buchanan WW. Sternoclavicular hyperostosis. *Sem Arthritis Rheum* 22:215-223, 1993.
82. Myers BW, Masi AT, Feigenbaum SL. Pigmented nodular synovitis and tenosynovitis: a clinical epidemiologic study of 166 cases and literature review. *Medicine* 59:223-238, 1980.
83. Schonholtz GJ, Magee CM. The synovial plicae of the knee joint. *Contemp Orthop* 12:31-37, 1986.
84. Cox JS. Chondromalacia of the patella. *Contemp Orthop* 6:17-31, 1983.
85. Larsson LG, Baum J. The syndrome of anserine bursitis. *Arthritis Rheum* 28:1062-1065, 1985.
86. Lohr KM. Rheumatic manifestations of diseases associated with substance abuse. *Sem Arthritis Rheum* 17:90-111, 1987.
87. Russell EB, Hunter JB, Pearson L, *et al.* Remitting, seronegative, symmetrical synovitis with pitting edema - 13 additional cases. *J Rheumatol* 17:633-639, 1990.