

Sarkoidose: ein klinisch orientierter Überblick

Sarcoïdose: aperçu clinique

Literatur / Références

- 1 Fernandez FE: [Epidemiology of sarcoidosis]. Arch Bronconeumol 2007;43:92-100.
- 2 Hunninghake GW, Costabel U, Ando M, Baughman R, Cordier JF, Dubois R et al.: ATS/ERS/WASOG statement on sarcoidosis. American Thoracic Society/European Respiratory Society/World Association of Sarcoidosis and other Granulomatous Disorders. Sarcoidosis Vasc Diffuse Lung Dis 1999;16:149-173.
- 3 Deubelbeiss U, Gemperli A, Schindler C, Baty F, Brutsche MH: Prevalence of sarcoidosis in Switzerland is associated with environmental factors. Eur Respir J 2010;35:1088-1097.
- 4 Pietinalho A, Hiraga Y, Hosoda Y, Lofroos AB, Yamaguchi M, Selroos O: The frequency of sarcoidosis in Finland and Hokkaido, Japan. A comparative epidemiological study. Sarcoidosis 1995;12:61-67.
- 5 Design of a case control etiologic study of sarcoidosis (ACCESS). ACCESS Research Group: J Clin Epidemiol 1999;52:1173-1186.
- 6 Izbicki G, Chavko R, Banauch GI, Weiden MD, Berger KI, Aldrich TK et al. : World Trade Center "sarcoid-like" granulomatous pulmonary disease in New York City Fire Department rescue workers. Chest 2007;131:1414-1423.
- 7 McGrath DS, Daniil Z, Foley P, du Bois JL, Lympny PA, Cullinan P et al.: Epidemiology of familial sarcoidosis in the UK. Thorax 2000;55:751-754.
- 8 Newman LS, Rose CS, Maier LA: Sarcoidosis. N Engl J Med 1997;336:1224-1234.
- 9 Baughman RP, Teirstein AS, Judson MA, Rossman MD, Yeager H, Jr., Bresnitz EA et al.: Clinical characteristics of patients in a case control study of sarcoidosis. Am J Respir Crit Care Med 2001;164:1885-1889.
- 10 Muller-Quernheim J, Schurmann M, Hofmann S, Gaede KI, Fischer A, Prasse A et al: Genetics of sarcoidosis. Clin Chest Med 2008;29:391-414, viii.
- 11 Schurmann M, Lympny PA, Reichel P, Muller-Myhsok B, Wurm K, Schlaak M et al.: Familial sarcoidosis is linked to the major histocompatibility complex region. Am J Respir Crit Care Med 2000;162:861-864.
- 12 Rutherford RM, Brutsche MH, Kearns M, Bourke M, Stevens F, Gilmartin JJ: HLA-DR2 predicts susceptibility and disease chronicity in Irish sarcoidosis patients. Sarcoidosis Vasc Diffuse Lung Dis 2004;21:191-198.
- 13 Rossman MD, Thompson B, Frederick M, Maliarik M, Iannuzzi MC, Rybicki BA et al.: HLA-DRB1*1101: a significant risk factor for sarcoidosis in blacks and whites. Am J Hum Genet 2003;73:720-735.
- 14 Berlin M, Fogdell-Hahn A, Olerup O, Eklund A, Grunewald J: HLA-DR predicts the prognosis in Scandinavian patients with pulmonary sarcoidosis. Am J Respir Crit Care Med 1997;156:1601-1605.
- 15 Maliarik MJ, Rybicki BA, Malvitz E, Sheffer RG, Major M, Popovich J, Jr. et al.: Angiotensin-converting enzyme gene polymorphism and risk of sarcoidosis. Am J Respir Crit Care Med 1998;158:1566-1570.
- 16 Pietinalho A, Furuya K, Yamaguchi E, Kawakami Y, Selroos O: The angiotensin-converting enzyme DD gene is associated with poor prognosis in Finnish sarcoidosis patients. Eur Respir J 1999;13:723-726.
- 17 Valentonyte R, Hampe J, Huse K, Rosenstiel P, Albrecht M, Stenzel A et al.: Sarcoidosis is associated with a truncating splice site mutation in BTNL2. Nat Genet 2005;37:357-364.
- 18 Hunninghake GW, Bedell GN, Zavala DC, Monick M, Brady M: Role of interleukin-2 release by lung T-cells in active pulmonary sarcoidosis. Am Rev Respir Dis 1983;128:634-638.
- 19 Iida K, Kadota J, Kawakami K, Matsubara Y, Shirai R, Kohno S: Analysis of T cell subsets and beta chemokines in patients with pulmonary sarcoidosis. Thorax 1997;52:431-437.
- 20 Pinkston P, Bitterman PB, Crystal RG: Spontaneous release of interleukin-2 by lung T lymphocytes in active pulmonary sarcoidosis. N Engl J Med 1983;308:793-800.
- 21 Ziegenhagen MW, Muller-Quernheim J: The cytokine network in sarcoidosis and its clinical relevance. J Intern Med 2003;253:18-30.
- 22 Thomas KW, Hunninghake GW: Sarcoidosis. JAMA 2003;289:3300-3303.
- 23 Daweritz C, Brutsche M: [Young man with exercise-induced dyspnea]. Praxis (Bern 1994) 2001;90:1783-1785.
- 24 Loddenkemper R, Kloppenborg A, Schoenfeld N, Grosser H, Costabel U: Clinical findings in 715 patients with newly detected pulmonary sarcoidosis--results of a cooperative study in former West Germany and Switzerland. WATL Study Group. Wissenschaftliche Arbeitsgemeinschaft für die Therapie von Lungenkrankheiten. Sarcoidosis Vasc Diffuse Lung Dis 1998;15:178-182.

- 25 Pietinalho A, Ohmichi M, Hiraga Y, Lofroos AB, Selroos O: The mode of presentation of sarcoidosis in Finland and Hokkaido, Japan. A comparative analysis of 571 Finnish and 686 Japanese patients. *Sarcoidosis Vasc Diffuse Lung Dis* 1996;13:159-166.
- 26 Siltzbach LE: Sarcoidosis: clinical features and management. *Med Clin North Am* 1967;51:483-502.
- 27 Cohen PR, Kurzrock R: Sarcoidosis and malignancy. *Clin Dermatol* 2007;25:326-333.
- 28 Chowdhury FU, Sheerin F, Bradley KM, Gleeson FV: Sarcoid-like reaction to malignancy on whole-body integrated (18)F-FDG PET/CT: prevalence and disease pattern. *Clin Radiol* 2009;64:675-681.
- 29 Boursiquot JN, Gerard L, Malphettes M, Fieschi C, Galicier L, Boutboul D et al.: Granulomatous Disease in COVID: Retrospective Analysis of Clinical Characteristics and Treatment Efficacy in a Cohort of 59 Patients. *J Clin Immunol* 2012.
- 30 Ardeniz O, Cunningham-Rundles C: Granulomatous disease in common variable immunodeficiency. *Clin Immunol* 2009;133:198-207.
- 31 Khasnis AA, Calabrese LH: Tumor necrosis factor inhibitors and lung disease: a paradox of efficacy and risk. *Semin Arthritis Rheum* 2010;40:147-163.
- 32 Almodovar R, Izquierdo M, Zarco P, Javier QF, Mazzucchelli R, Steen B: Pulmonary sarcoidosis in a patient with ankylosing spondylitis treated with infliximab. *Clin Exp Rheumatol* 2007;25:99-101.
- 33 Goldberg HJ, Fiedler D, Webb A, Jagirdar J, Hoyumpa AM, Peters J: Sarcoidosis after treatment with interferon-alpha: a case series and review of the literature. *Respir Med* 2006;100:2063-2068.
- 34 Shorr AF, Torrington KG, Hnatiuk OW: Endobronchial biopsy for sarcoidosis: a prospective study. *Chest* 2001;120:109-114.
- 35 Shorr AF, Torrington KG, Hnatiuk OW: Endobronchial involvement and airway hyperreactivity in patients with sarcoidosis. *Chest* 2001;120:881-886.
- 36 Chapman JT, Mehta AC: Bronchoscopy in sarcoidosis: diagnostic and therapeutic interventions. *Curr Opin Pulm Med* 2003;9:402-407.
- 37 Koerner SK, Sakowitz AJ, Appelman RI, Becker NH, Schoenbaum SW: Transbronchial lung biopsy for the diagnosis of sarcoidosis. *N Engl J Med* 1975;293:268-270.
- 38 Costabel U: CD4/CD8 ratios in bronchoalveolar lavage fluid: of value for diagnosing sarcoidosis? *Eur Respir J* 1997;10:2699-2700.
- 39 Zaiss AW, Costabel U, Wagner DJ, Baur R, Ruhle KH, Matthys H: [T4/T8 ratio in bronchoalveolar lavage fluid: sensitivity and specificity for the diagnosis of sarcoidosis]. *Prax Klin Pneumol* 1988;42 Suppl 1:233-234.
- 40 Marruchella A, Tondini M: Reliability of bronchoalveolar lavage in the routine clinical assessment of patients with sarcoidosis. A retrospective analysis. *Panminerva Med* 2002;44:257-260.
- 41 Greco S, Marruchella A, Massari M, Saltini C: Predictive value of BAL cellular analysis in differentiating pulmonary tuberculosis and sarcoidosis. *Eur Respir J* 2005;26:360-361.
- 42 Ziegenhagen MW, Rothe ME, Schlaak M, Muller-Quernheim J: Bronchoalveolar and serological parameters reflecting the severity of sarcoidosis. *Eur Respir J* 2003;21:407-413.
- 43 Welker L, Jorres RA, Costabel U, Magnussen H: Predictive value of BAL cell differentials in the diagnosis of interstitial lung diseases. *Eur Respir J* 2004;24:1000-1006.
- 44 Mana J, Teirstein AS, Mendelson DS, Padilla ML, DePalo LR: Excessive thoracic computed tomographic scanning in sarcoidosis. *Thorax* 1995;50:1264-1266.
- 45 Lynch JP, III: Computed tomographic scanning in sarcoidosis. *Semin Respir Crit Care Med* 2003;24:393-418.
- 46 Costabel U: Sarcoidosis: clinical update. *Eur Respir J Suppl* 2001;32:56s-68s.
- 47 Drent M, De Vries J, Lenters M, Lamers RJ, Rothkranz-Kos S, Wouters EF et al.: Sarcoidosis: assessment of disease severity using HRCT. *Eur Radiol* 2003;13:2462-2471.
- 48 Muller NL, Kullnig P, Miller RR: The CT findings of pulmonary sarcoidosis: analysis of 25 patients. *AJR Am J Roentgenol* 1989;152:1179-1182.
- 49 Nishimura K, Itoh H, Kitaichi M, Nagai S, Izumi T: CT and pathological correlation of pulmonary sarcoidosis. *Semin Ultrasound CT MR* 1995;16:361-370.
- 50 Rohatgi PK, Schwab LE: Primary acute pulmonary cavitation in sarcoidosis. *AJR Am J Roentgenol* 1980;134:1199-1203.
- 51 Brauner MW, Grenier P, Mompoin D, Lenoir S, De Crémoux H: Pulmonary sarcoidosis: evaluation with high-resolution CT. *Radiology* 1989;172:467-471.
- 52 Murdoch J, Muller NL: Pulmonary sarcoidosis: changes on follow-up CT examination. *AJR Am J Roentgenol* 1992;159:473-477.
- 53 Abehsera M, Valeyre D, Grenier P, Jaillet H, Battesti JP, Brauner MW: Sarcoidosis with pulmonary fibrosis: CT patterns and correlation with pulmonary function. *AJR Am J Roentgenol* 2000;174:1751-1757.
- 54 Lynch JP 3rd: Computed tomographic scanning in sarcoidosis. *Semin Respir Crit Care Med* 2003;24:393-418.
- 55 El-Haddad G, Zhuang H, Gupta N, Alavi A: Evolving role of positron emission tomography in the management of patients with inflammatory and other benign disorders. *Semin Nucl Med* 2004;34:313-329.
- 56 Prager E, Wehrsuetz M, Bisail B, Woltsche M, Schwarz T, Lanz H et al.: Comparison of 18F-FDG and 67Ga-citrate in sarcoidosis imaging. *Nuklearmedizin* 2008;47:18-23.
- 57 Shen XZ, Xiao HD, Li P, Lin CX, Billet S, Okwan-Duodu D et al.: New insights into the role of angiotensin-converting enzyme obtained from the analysis of genetically modified mice. *J Mol Med (Berl)* 2008;86:679-684.
- 58 Allen RK, Chai SY, Dunbar MS, Mendelsohn FA: In vitro autoradiographic localization of angiotensin-converting enzyme in sarcoid lymph nodes. *Chest* 1986;90:315-320.
- 59 Studdy PR, Bird R: Serum angiotensin converting enzyme in sarcoidosis--its value in present clinical practice. *Ann Clin Biochem* 1989;26 (Pt 1):13-18.
- 60 Shorr AF, Torrington KG, Parker JM: Serum angiotensin converting enzyme does not correlate with radiographic stage at initial diagnosis of sarcoidosis. *Respir Med* 1997;91:399-401.
- 61 Rothkranz-Kos S, van Dieijen-Visser MP, Mulder PG, Drent M: Potential usefulness of inflammatory markers to monitor respiratory functional impairment in sarcoidosis. *Clin Chem* 2003;49:1510-1517.
- 62 Miyoshi S, Hamada H, Kadowaki T, Hamaguchi N, Ito R, Irifune K et al.: Comparative evaluation of serum markers in pulmonary sarcoidosis. *Chest* 2010;137:1391-1397.
- 63 Grutters JC, van den Bosch JM: Corticosteroid treatment in sarcoidosis. *Eur Respir J* 2006;28:627-636.

- 64 Paramothayan NS, Lasserson TJ, Jones PW: Corticosteroids for pulmonary sarcoidosis. *Cochrane Database Syst Rev* 2005;CD001114.
- 65 Milburn HJ, Poulter LW, Dilmeç A, Cochrane GM, Kemeny DM: Corticosteroids restore the balance between locally produced Th1 and Th2 cytokines and immunoglobulin isotypes to normal in sarcoid lung. *Clin Exp Immunol* 1997;108:105-113.
- 66 Ziegenhagen MW, Rothe ME, Zissel G, Müller-Quernheim J: Exaggerated TNF α release of alveolar macrophages in corticosteroid resistant sarcoidosis. *Sarcoidosis Vasc Diffuse Lung Dis* 2002;19:185-190.
- 67 Baughman RP, Winget DB, Lower EE: Methotrexate is steroid sparing in acute sarcoidosis: results of a double blind, randomized trial. *Sarcoidosis Vasc Diffuse Lung Dis* 2000;17:60-66.
- 68 Baughman RP, Lower EE: Steroid-sparing alternative treatments for sarcoidosis. *Clin Chest Med* 1997;18:853-864.
- 69 Sharma OP: Effectiveness of chloroquine and hydroxychloroquine in treating selected patients with sarcoidosis with neurological involvement. *Arch Neurol* 1998;55:1248-1254.
- 70 Zic JA, Horowitz DH, Arzubiaga C, King LE, Jr.: Treatment of cutaneous sarcoidosis with chloroquine. Review of the literature. *Arch Dermatol* 1991;127:1034-1040.
- 71 Baltzan M, Mehta S, Kirkham TH, Cosio MG: Randomized trial of prolonged chloroquine therapy in advanced pulmonary sarcoidosis. *Am J Respir Crit Care Med* 1999;160:192-197.
- 72 Baughman RP, Judson MA, Teirstein AS, Moller DR, Lower EE: Thalidomide for chronic sarcoidosis. *Chest* 2002;122:227-232.
- 73 Baughman RP, Drent M, Kavuru M, Judson MA, Costabel U, Dubois R et al.: Infliximab therapy in patients with chronic sarcoidosis and pulmonary involvement. *Am J Respir Crit Care Med* 2006;174:795-802.
- 74 Baughman RP, Costabel U, Dubois RM: Treatment of sarcoidosis. *Clin Chest Med* 2008;29:533-53x.
- 75 Baughman RP, Lower EE, Drent M: Inhibitors of tumor necrosis factor (TNF) in sarcoidosis: who, what, and how to use them. *Sarcoidosis Vasc Diffuse Lung Dis* 2008;25:76-89.
- 76 Judson MA, Baughman RP, Costabel U, Flavin S, Lo KH, Kavuru MS et al.: Efficacy of infliximab in extrapulmonary sarcoidosis: results from a randomised trial. *Eur Respir J* 2008;31:1189-1196.
- 77 Rossman MD, Newman LS, Baughman RP, Teirstein A, Weinberger SE, Miller W Jr. et al.: A double-blinded, randomized, placebo-controlled trial of infliximab in subjects with active pulmonary sarcoidosis. *Sarcoidosis Vasc Diffuse Lung Dis* 2006;23:201-208.
- 78 Hostettler KE, Studler U, Tamm M, Brutsche MH: Long-term treatment with infliximab in patients with sarcoidosis. *Respiration* 2012;83:218-224.
- 79 Iannuzzi MC, Rybicki BA, Teirstein AS: Sarcoidosis. *N Engl J Med* 2007;357:2153-2165.
- 80 Shlobin OA, Nathan SD: Management of end-stage sarcoidosis: pulmonary hypertension and lung transplantation. *Eur Respir J* 2012;39:1520-1533.
- 81 Siltzbach LE, James DG, Neville E, Turiaf J, Battesti JP, Sharma OP et al.: Course and prognosis of sarcoidosis around the world. *Am J Med* 1974;57:847-852.