UPDATED REVIEW ON SARCOIDOSIS AND ITS CLINICAL MANIFESTATION

[1]Vaishnavi P. Pawar, [2]Sudarshan B. Ahire

Department of Pharmacy
Shastry Institute of Pharmacy
Erandol, Jalgaon.

Abstract- **Sarcoidosis gets its name from the Greek words "Sarco" meaning flesh, "Eidos" meaning like, and "Sis" meaning conditions. It's a rare condition that occurs when a group of cells in the immune system forms red and swollen lumps called granulomas in various organs in the body. The lungs are usually the most commonly affected organ. Sarcoidosis is more prevalent in Americans, Africans, and Scandinavians. It can affect any organ in the body. The condition was first identified by Besnier et al. in 1889. It typically affects people between the ages of 25 and 40, with 70% of cases occurring within this age range. The prevalence of sarcoidosis in India is unknown, but Kolkata and Delhi hospitals have reported annual rates of 10-12 cases per 1000 and 61.2 patients per lakh new registrations respectively. Patients with sarcoidosis generally exhibit general symptoms, while 30-35% of patients experience severe inflammatory reactions and respiratory problems. Bronchoalveolar lavage (BAL) changes the understanding of the inflammatory response of the lungs in sarcoidosis. This review focuses on the prevention, treatment, prognosis, epidemiology, and clinical manifestation of sarcoidosis**.

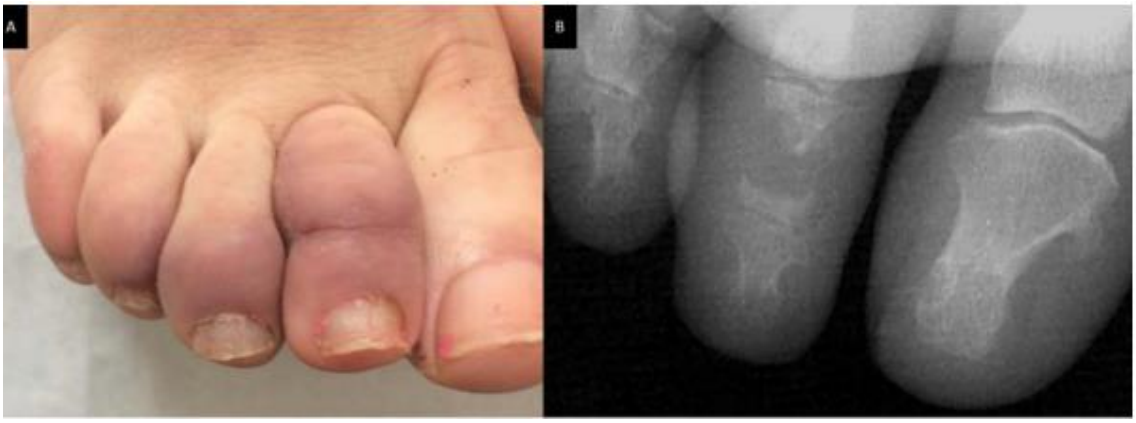
Keywords: **sarcoidosis disease, etiology, granulomas, lumps, manifestation.**

INTRODUCTION:

Besnier et al. originally described sarcoidosis in 1889. Usually, adults under 50 years old are the first to develop sarcoidosis. A second surge in incidence occurs in women over 50 years old, with over 70% of cases presenting between the ages of 25 and 40. It is believed that the incidence ranges from 2.3 to 11 per 100,000 people annually. The lifetime risk of sarcoidosis was estimated at 0.85% for Caucasian Americans and 2.4% for African Americans [5] [sp 1] Organ involvement (sarcoidosis of the central nervous system (CNS), cardiac sarcoidosis, portal hypertension, severe pulmonary fibrosis, etc.) or functional hazard (laryngeal involvement, posterior uveitis, severe or deforming skin disease) [7] [SP 1]. A poor prognosis has been linked to factors such as age over 40 years at presentation, lupus pernio, chronic uveitis, Sino nasal and osseous localizations, CNS involvement, cardiac involvement, severe hyperkalaemia, nephrocalcinosis, and radiographic stages III and IV.[8] [SP 1]

MANIFESTATIONS OF CLINICAL SIGNS The remarkable thing about sarcoidosis is that it can impact any organ. [SP1]

GENERAL SYMPTOMS: Sarcoidosis frequently manifests as general symptoms [19] [SP 1]. For instance, studies report that 50–70% of sarcoidosis patient's experience [20] [SP 1]. Sarcoidosis is not the only cause of fatigue; other possible explanations include hypothyroidism, anxiety, depression, sleep apnea, or an active, severe inflammatory response [20] [SP1]. Small fibre neuropathy and tiredness, as well as dyspnoea and fatigue, were revealed to be positively correlated [19] [SP 1] Symptoms are also contingent upon the patient's age, sex, ethnicity, primary clinical condition, and the number of organs affected. [SP 2]



SEVERE SWELLING THAT AFFECTED IN TOES IN SARCOIDOSIS PATIENT

Location within the muscle the lateral wall, the left ventricles basal segments, and the interventricular septum are the areas where sacred granulomas are most frequently affected. [Sp 2]

Diagnostic examinations Due to its tendency to resemble other diseases and its potential for non-onset, CS can be very challenging to diagnose, with early signs and symptoms. Multiple diagnostic methods must be utilized to evaluate a patient's symptoms and rule out other possible causes (mostly ischemic heart disease), as no one test can confirm a diagnosis. The traditional trio of diagnosis consists of the following: 1) consistent radiological and clinical symptoms; 2) non caseating granulomas on histopathology; and 3) ruling out other potential illnesses [1, 89, and 90]. [sp2]

TREATMENT: Reducing inflammation, avoiding complications, and enhancing the patient's quality of life are the objectives of treatment. Alterations in lifestyle that could advise to handle sarcoidosis include stress reduction, a balanced diet, and frequent exercise. [Sp 2] Drugs used to treat sarcoidosis are corticosteroids, beta-blockers, immune suppressants, and angiotensin-converting enzyme inhibitors. [Sp 2]

PROGNOSIS The degree of cardiac involvement and the existence of other organ systems may have an impact on the prognosis of CS. A lower left ventricular ejection fraction and clinically evident heart failure have a worse prognosis, with a 19–53% 10-year survival rate [155]. [sp2]

Prevention Glucocorticoids are the oral immunosuppressant drug class with the highest risk of infection formation. [8] [Sp 9]. On the other hand, compared to individuals not taking glucocorticoids, patients taking less than 10 mg of prednisone daily (or its equivalent) did not have greater infection rates.[10] [sp 9]. About 5.2% of patients may experience cytopenias after methotrexate, which may partially predispose them to infections [11] [sp 9] When taking oral medicines, significant immunosuppression is thought to happen when taking prednisolone > 10 mg/day (or its equivalent) for more than two weeks, methotrexate ≥ 0.4 mg/kg/week, and azathioprine ≥ 3 mg/kg/day[7].[sp 9]

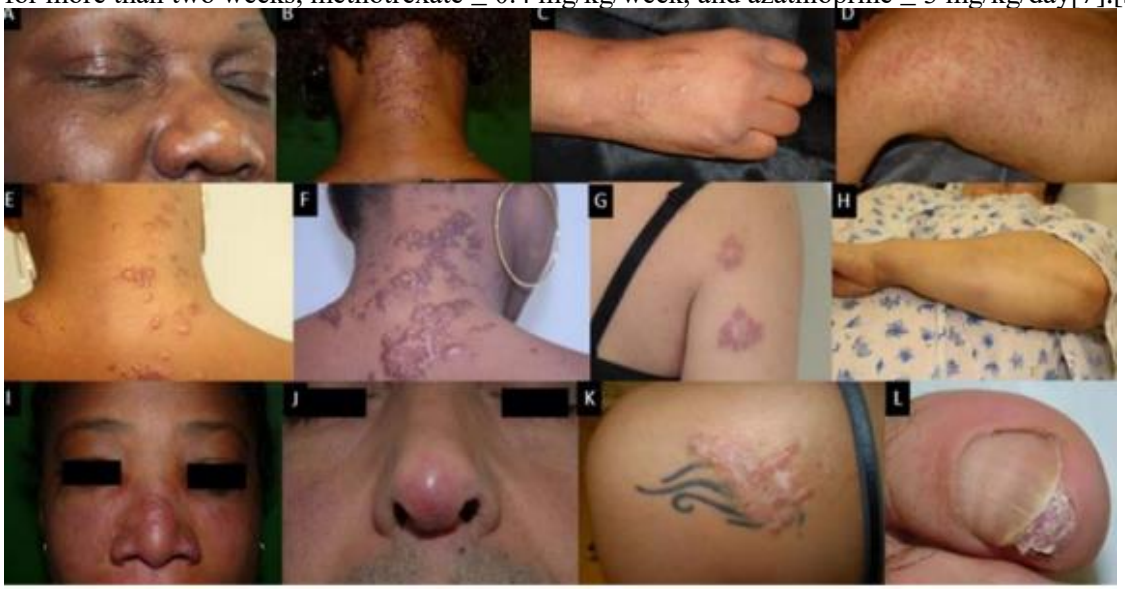


Figure : Skin sarcoidosis manifestations; (A–C): papular sarcoidosis, (D): diffuse maculopapular sarcoidosis; (E,F): Evolution of papular sarcoidosis into plaque sarcoidosis (same patient at a one-year interval); (G): annular plaque sarcoidosis;(H): subcutaneous sarcoidosis (Darier-Roussy type); (I): lupus pernio which has to be differentiated from (J): angiolupoid sarcoidosis (where telangiectasia's are visible; (K): tattoo-sarcoidosis; (L): subungueal sarcoidosis

Conclusion: Treatment of sarcoidosis must mainly focus on the specific problems of patients. Anti-inflammatory drugs especially Glucocorticosteroids remain the choice of treatment for most patients.

The diagnosis of sarcoidosis is based on three main criteria: - Compatible presentations; evidence of caseating granulomas and exclusion of alternative diagnosis. Several studies have recently highlighted the existence of distinct phenotypes of sarcoidosis in clinical practice.

There are several types of sarcoidosis:

1) Pulmonary sarcoidosis
2) Neuro sarcoidosis
3) Cardiac sarcoidosis
4) Ocular sarcoidosis
5) Cutaneous sarcoidosis
6) Multiorgan sarcoidosis

The etiology of sarcoidosis is not exactly known. It includes immunologic processes; sarcoidosis is susceptible to encompassing numerous different clinical presentations.

REFERENCES:

1. Rybicki, B. A., Major, M., Popovich, J., Maliank, M. J., & Lannuzzi, M. C. (1997). Racial Differences in Sarcoidosis Incidence: A 5-Year Study in a Health Maintenance Organization. In *American Journal of Epidemiology Copyright O* (Vol. 145, Issue 3). https://academic.oup.com/aje/article/145/3/234/182661
2. Valeyre, D.; Prasse, A.; Nunes, H.; Uzunhan, Y.; Brillet, P.-Y.; Müller-Quernheim, J. Sarcoidosis. Lancet 2014, 383, 1155–1167. [CrossRef]
3. Nunes, H.; Bouvry, D.; Soler, P.; Valeyre, D. Sarcoidosis. Orphanet J. Rare Dis. 2007, 2, 46. [CrossRef]
4. Sève, P., Pacheco, Y., Durupt, F., Jamilloux, Y., Gerfaud-Valentin, M., Isaac, S., Boussel, L., Calender, A., Androdias, G., Valeyre, D., & el Jammal, T. (2021). Sarcoidosis: A clinical overview from symptoms to diagnosis. In *Cells* (Vol. 10, Issue 4). MDPI. https://doi.org/10.3390/cells10040766
5. Drent, M.; Strookappe, B.; Hoitsma, E.; De Vries, J. Consequences of Sarcoidosis. Clin. Chest Med. 2015, 36, 727–737. [CrossRef] [PubMed]
6. Drent, M., Lower, E. E., & de Vries, J. (2012). Sarcoidosis-associated fatigue. In *European Respiratory Journal* (Vol. 40, Issue 1, pp. 255–263). https://doi.org/10.1183/09031936.00002512
7. Padilla, M. L. (2005). Cardiac sarcoidosis. In *Sarcoidosis* (pp. 515–552). CRC Press. https://doi.org/10.18794/aams/16794
8. Demedts, M. (2001). *Interstitial lung diseases : a clinical update : proceedings of an international symposium held in Leuven, Belgium, on March 23-25, 2000 ; a European School of Respiratory Medicine seminar*. European Respiratory Soc
9. Hunninghake G.W., Costabel U., Ando M., Baughman R., Cordier J.F., du Bois 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(2): 149–173.
10. Bargagli E., Prasse A. Sarcoidosis: a review for the internist. Intern. Emerg. Med. 2018; 13(3): 325–331, doi: 10.1007/s11739-017-1778-6
11. https://doi.org/10.1016/j.amjcard.2004.08.083
12. Bernatsky, S., Hudson, M., & Suissa, S. (2007). Anti-rheumatic drug use and risk of serious infections in rheumatoid arthritis. *Rheumatology*, *46*(7), 1157–1160. https://doi.org/10.1093/rheumatology/kem076
13. https://doi.org/10.1093/clinids/11.6.954
14. Salliot, C., & van der Heijde, D. (2009). Long-term safety of methotrexate monotherapy in patients with rheumatoid arthritis: A systematic literature research. *Annals of the Rheumatic Diseases*, *68*(7), 1100–1104. https://doi.org/10.1136/ard.2008.093690
15. Papp, K. A., Haraoui, B., Kumar, D., Marshall, J. K., Bissonnette, R., Bitton, A., Bressler, B., Gooderham, M., Ho, V., Jamal, S., Pope, J. E., Steinhart, A. H., Vinh, D. C., & Wade, J. (2019). Vaccination Guidelines for Patients With Immune-Mediated Disorders on Immunosuppressive Therapies. *Journal of Cutaneous Medicine and Surgery*, *23*(1), 50–74. https://doi.org/10.1177/1203475418811335
16. https://doi.org/10.1016/j.jbspin.2010.02.009