Case Report

DOI: 10.7860/JCDR/2026/88271.23580

Sarcoidosis Presenting as Abdominal Pain with Generalised Lymphadenopathy: A Diagnostic Challenge

Surgery Section

K HARI VIGNESH[1], S KARTHIKEYAN[2], PRASANNA KUMAR KAMBALA[3], SASIKUMAR PATABI[4]

ABSTRACT

Sarcoidosis is a chronic multisystem granulomatous disorder of unknown aetiology, characterised by the formation of non-caseating epithelioid granulomas in affected organs. Although pulmonary and intrathoracic lymph node involvement is observed in approximately 90% of cases, extrapulmonary manifestations are increasingly recognised and may affect virtually any organ system, including the liver, spleen, skin, eyes, and heart. Abdominal involvement is present in 10-30% of patients, frequently remaining subclinical or manifesting with non-specific symptoms. Atypical presentations, such as isolated abdominal pain in the absence of respiratory symptoms, create substantial diagnostic challenges and often result in delayed diagnosis or misdiagnosis. Establishing the diagnosis necessitates a high index of clinical suspicion, thorough systemic evaluation and meticulous exclusion of alternative granulomatous conditions, particularly tuberculosis and malignancy. This is a case of 62-year-old female presenting with abdominal pain for last two months and a long history of hypothyroidism and diabetes mellitus. Further, radiological assessment and laboratory findings concluded a diagnosis of multisystem sarcoidosis, which was later managed by corticosteroids for symptomatic systemic sarcoidosis with extensive lymphadenopathy. This case highlights the importance of considering Sarcoidosis as a differential diagnosis in patients presenting with non-specific symptoms and clinical suspicion of granulomatous disease.

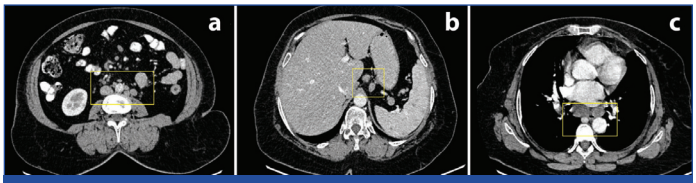
Keywords: Angiotensin-converting enzyme, Geriatric females, Lymphadenopathy, Non-caseating granulomas, Non-specific abdominal pain, Systemic sarcoidosis

CASE REPORT

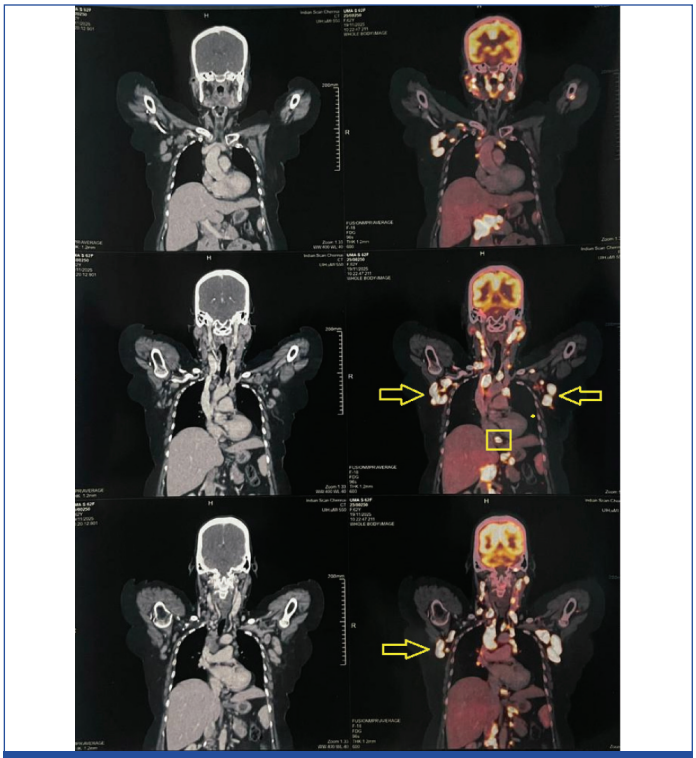
A 62-year-old female presented with upper abdominal pain for two months. The pain was dull aching kind and intermittent, without any major relieving or aggravating factors. She was a known case of type 2 diabetes mellitus and hypothyroidism for the past 10 years on standard management.

Physical examination of the neck revealed generalised lymphadenopathy. A lymph node measuring 1.0×1.0 cm was observed in the anterior triangle on the left-side, mobile, firm, non-matted, and non-tender. The right inguinal region also showed a mobile, firm, and non-tender lymph node measuring 2.0×2.0 cm. The bilateral axilla showed multiple mobile, firm, non-matted lymph nodes measuring 1.0×1.0 cm. Abdominal examination revealed a soft, non-tender abdomen. Laboratory findings were as follows: serum angiotensin-Converting Enzyme (ACE): 98.0 U/L (reference: 12-68 U/L) [1], serum calcium: 10.01 mg/dL (reference: 8.8-10.4 mg/dL) [2], and Interferon-Gamma Release Assay (IGRA): Negative (Interferon-Gamma: 0.023 IU/mL) [3]. She was further subjected to radiological assessments by ultrasound, which showed cervical and bilateral axillary lymphadenopathy with preserved fatty hilum. Computed Tomography (CT) of the chest region revealed multiple bilateral pulmonary nodules with perilymphatic distribution, mediastinal and bilateral hilar lymphadenopathy consistent with stage II sarcoidosis [Table/Fig-1].

The Positron Emission Tomography (PET)-CT scan showed extensive intensely hypermetabolic generalised lymphadenopathy involving both sides of the diaphragm-cervical, intraparotid, supraclavicular, axillary, mediastinal, hilar, internal mammary, tracheobronchial, abdominopelvic, retroperitoneal, and bilateral iliac and inguinal regions [Table/Fig-2]. Few nodes showed focal calcifications; mediastinal nodes appeared hypo-enhancing/ hypoattenuating. Mild tracheal mass effect by right paratracheal nodes. These findings were suggestive of granulomatous/inflammatory pathology, such as sarcoidosis. Lymphoproliferative disorder was considered as a differential diagnosis.

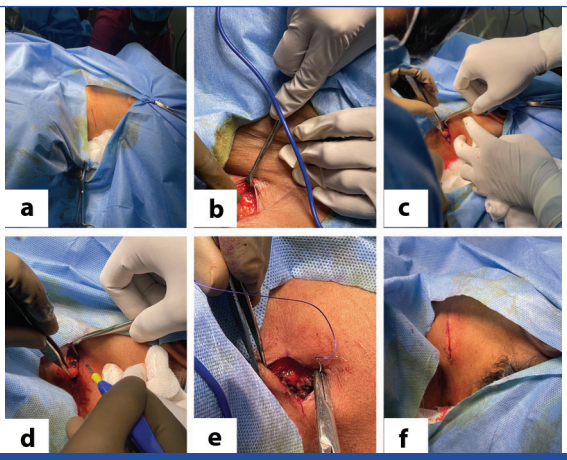


[Table/Fig-1]: Computed Tomography (CT) scan showing enlarged lymph nodes in a) Paraaortic; b) Perigastric; c) Para-oesophageal regions.

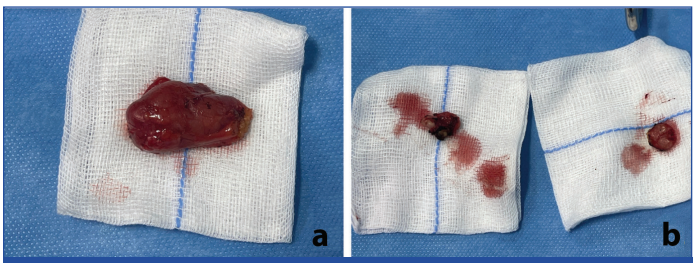


[Table/Fig-2]: Positron emission tomography scan; Yellow arrows showing axillary nodes, box showing gastroesophageal junction node.

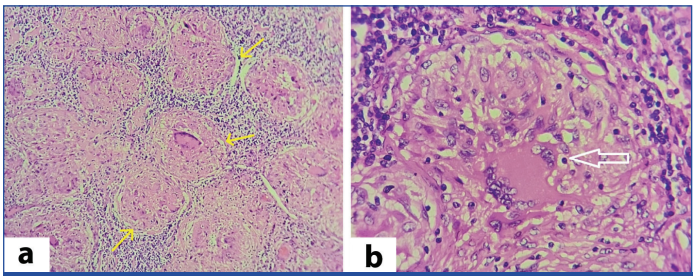
The patient was further subjected to excisional biopsy of cervical, bilateral axillary, and right inguinal lymph nodes [Table/Fig-3,4]. The excisional biopsy of cervical, bilateral axillary and right inguinal lymph nodes revealed granulomatous lymphadenitis on histopathological examination, confirming the final diagnosis of multisystem Sarcoidosis [Table/Fig-5]. The patient was initiated on oral corticosteroid therapy (prednisolone) at a dose of 0.5 mg/kg/day due to symptomatic systemic sarcoidosis with extensive lymphadenopathy [4]. Significant clinical improvement was noted within four weeks, following which gradual tapering of steroids was undertaken. Steroid-sparing agents were not required during follow-up. No relapse or new organ involvement was observed [Table/Fig-6].



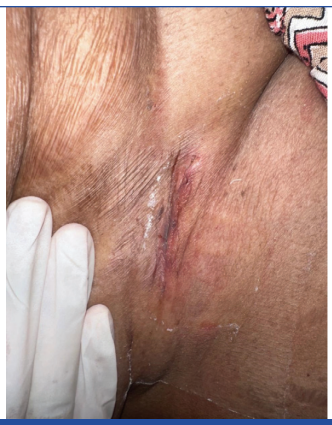
[Table/Fig-3]: Intraoperative image.



[Table/Fig-4]: Excised masses from the neck.



[Table/Fig-5]: Haematoxylin and eosin stain of the excised masses: a) 10x magnification, yellow arrows showing naked granulomas; b) 40x magnification, white arrow showing giant cell.



[Table/Fig-6]: Follow-up image of the inguinal region scar at two weeks.

DISCUSSION

Sarcoidosis is a chronic multisystem granulomatous disease characterised by the presence of non-caseating epithelioid granulomas in various organs. It has been associated with many other tumours and haematologic malignancies [5]. Although pulmonary manifestations are identified in approximately 90% of patients, extrapulmonary disease presentations pose substantial diagnostic challenges and contribute significantly to clinical complexity [6]. The precise aetiology of sarcoidosis remains incompletely understood; however, current evidence indicates an abnormal immune response to unidentified environmental or infectious antigens in genetically predisposed individuals [7]. Sarcoidosis is reported to be common in the age group between 20 and 40 years, with a predominance in females. Prevalence varies across ethnicities, ranging from two to six per 100,000 individuals. The abdomen is the most common extra-thoracic site with an incidence of 10-30%. The spleen, liver, and kidney are the most frequently noted abdominal sites of sarcoidosis [8]. Abdominal organ involvement is rare in sarcoidosis cases, frequently manifesting with vague, non-specific symptoms such as abdominal pain or discomfort, thereby complicating timely diagnosis [8,9].

This case illustrates sarcoidosis presenting with atypical extrapulmonary manifestations. Isolated abdominal pain with generalised lymphadenopathy prompted extensive evaluation, revealing multisystem involvement. A 61-year-old male presenting with several subcutaneous nodules was reported; biopsy-confirmed diagnosis showed extensive disease on PET scan [10]. A similar extensive disease was observed in this patient on PET scan. Sarcoidosis can be presented as a diagnostic challenge in elderly patients attributed to non-specific symptoms such as skin nodules, fatigue and others [11]. It can also be reported as an incidental finding. Kesici B et al., reported a case of an incidental finding of sarcoidosis in a 20-year-old female during a laparoscopic surgery for gall bladder polyp [12].

Establishing a definitive diagnosis requires integrating compatible clinical features and radiological findings, supported by histopathological confirmation of non-caseating granulomas, and rigorously excluding alternative infectious aetiologies, most importantly tuberculosis and fungal infections [13]. Characteristic imaging findings include bilateral pulmonary nodules with perilymphatic distribution and symmetric hilar and mediastinal lymphadenopathy [9], which were also observed in this patient. Elevated serum Angiotensin-Converting Enzyme (ACE) levels provide supportive evidence, but lack specificity [14,15]. Tuberculosis was excluded using IGRA testing, and histopathological confirmation of non-caseating granulomas established the diagnosis. Though systemic corticosteroids are the first-line treatment for sarcoidosis and are reserved for symptomatic disease, the treatment regimen is usually tailored to individual needs [16]. In older individuals, early detection can help achieve favorable outcomes. Sarcoidosis management commonly targets symptomatic resolution and reduces disease progression with corticosteroid therapy, with a high-risk of side-effects in this cohort [17].

CONCLUSION(S)

This case highlights multisystem sarcoidosis presenting as isolated abdominal pain. Diagnosis requires a high index of suspicion, comprehensive evaluation, and exclusion of infectious aetiologies, with radiological assessment and histopathological confirmation remaining crucial even in asymptomatic patients.

REFERENCES

[1] Mayo Clinic Laboratories. ACE - Overview: Angiotensin Converting Enzyme, Serum [Internet]. Rochester (MN): Mayo Clinic Laboratories; [cited 2026 Mar 24]. Available from: https://www.mayocliniclabs.com/test-catalog/overview/603622#clinical-and-interpretive.

[2] Drake TM, Gupta V. Calcium. [Updated 2024 Jan 8]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2026 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK557683/.

[3] Zubair M, Sergent SR. Interferon Test. [Updated 2025 Aug 2]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2026 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK560585/.
[4] Puckett Y, Patel P, Bokhari AA. Prednisone. [Updated 2025 Apr 26]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2026 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK534809/.
[5] Beutler BD, Cohen PR. Sarcoidosis in melanoma patients: Case report and literature review. Cancers. 2015;7(2):1005-21. Doi: 10.3390/cancers7020821.
[6] Ungprasert P, Ryu JH, Matteson EL. Clinical manifestations, diagnosis, and treatment of sarcoidosis. Mayo Clin Proc Innov Qual Outcomes. 2019;3(3):358-75. Doi: 10.1016/j.mayocpiqo.2019.04.006. PMID: 31485575; PMCID: PMC6713839.
[7] Somboonviboon D, Wattanathum A, Keorochana N, Wongchansom K. Sarcoidosis developing after COVID-19: A case report. Respirol Case Rep. 2022;10(9):e01016. Doi: 10.1002/rcr2.1016. PMID: 35978720; PMCID: PMC9366406.
[8] Gezer NS, Başara I, Altay C, Harman M, Rocher L, Karabulut N, et al. Abdominal sarcoidosis: Cross-sectional imaging findings. Diagn Interv Radiol. 2015;21(2):111-17. Doi: 10.5152/dir.2014.14210.
[9] Ghozy S, Revels JW, Sriwastwa A, Wang LL, Weaver JS, Wang SS. Imaging in sarcoid disease. Best Pract Res Clin Rheumatol. 2025;39(3):102054. Doi: 10.1016/j.berh.2025.102054.
[10] Youn P, Francis RJ, Preston H, Lake F. Subcutaneous sarcoidosis (Darier-Roussy sarcoidosis) with extensive disease on positron emission tomography: A case report and review of the literature. Respirol Case Reps. 2022;10(5):e0949. Doi: 10.1002/rcr2.949.
[11] Twayana A, Deo S, Poudel S, Shrestha B, Dhakal S, Rimal S, Sapkota P. case report: Sarcoidosis. F1000Research. 2022;11:1046. Doi: 10.12688/f1000research.125430.1.
[12] Kesici B, Toros AB, Bayraktar L, Dervisoglu A. Sarcoidosis incidentally diagnosed: A case report. Case Rep Pulmonol. 2014;2014:702868. Doi: 10.1155/2014/702868.
[13] Das CJ, Vora Z, Sharma R, Addula D, Kundra V. Tuberculosis of abdominal lymph nodes, peritoneum, and GI tract: A malignancy mimic. Abdominal Radiol. 2022;47(5):1775-87. Doi: 10.1007/s00261-022-03472-x.
[14] Zheng SY, Du X, Dong JZ. Re-evaluating serum angiotensin-converting enzyme in sarcoidosis. Front Immunol. 2023;14:950095. Doi: 10.3389/fimmu.2023.950095.
[15] Danilov SM, Jain MS, Petukhov PA, Goldman C, DiSanto-Rose M, Vancavage R, et al. Novel ACE mutations mimicking sarcoidosis by increasing blood ACE levels. Transl Res. 2021;230:05-20. Doi: 10.1016/j.trsl.2020.07.010. Epub 2020 Jul 26. PMID: 32726712.
[16] Di Marco Berardino A, Mei F, Zuccatosta L. Safety of corticosteroid therapy in sarcoidosis treatment. Front Drug Saf Regul. 2023;3:1319931. Doi: 10.3389/fdsfr.2023.1319931.
[17] Brennan M, Breen D. Sarcoidosis in the older person: Diagnostic challenges and treatment consideration. Age and Ageing. 2022;51(9):afac203. Doi: 10.1093/ageing/afac203.

PARTICULARS OF CONTRIBUTORS:
1. Junior Resident, Department of Surgery, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India.
2. Associate Professor, Department of Surgery, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India.
3. Senior Resident, Department of Surgery, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India.
4. Professor, Department of Surgery, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Karthikeyan S,
Associate Professor, Department of Surgery, Sree Balaji Medical College and Hospital, 7, CLC Works Road, New Colony, Chromepet, Chennai-600044, Tamil Nadu, India.
E-mail: drsk1287@gmail.com

PLAGIARISM CHECKING METHODS: [Jain H et al.]
- Plagiarism X-checker: Feb 24, 2026
- Manual Googling: Apr 23, 2026
- iThenticate Software: Apr 25, 2026 (4%)

ETYMOLOGY: Author Origin

EMENDATIONS: 7

AUTHOR DECLARATION:
- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. Yes

Date of Submission: **Feb 19, 2026**
Date of Peer Review: **Mar 10, 2026**
Date of Acceptance: **Apr 27, 2026**
Date of Publishing: **Jun 01, 2026**