Assessing the Imaging Burden of Mesenteric Panniculitis – A Service Evaluation & Review of the Literature

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Background/Aims

- Mesenteric panniculitis is a poorly understood clinical entity with a range of terms used to describe similar imaging features – mesenteric panniculitis, sclerosing mesenteritis, retractile mesenteritis.
- Proposed mechanisms of pathophysiology include macrophage infiltration and fat necrosis resulting in fibrosis. It is usually a self-limiting minimally symptomatic or asymptomatic process with abdominal pain and fever the most common symptoms though obstruction has been reported.
- Several other pathologies have been associated with mesenteric panniculitis including inflammatory processes such as pancreatitis, trauma and malignancy.
- It has been commonly associated with the development or concurrent lymphoma despite a paucity of evidence which has led to serial follow up examinations being advised.
- We aimed to assess the imaging burden of Mesenteric panniculitis at our site and review the literature regarding the association with lymphoma.

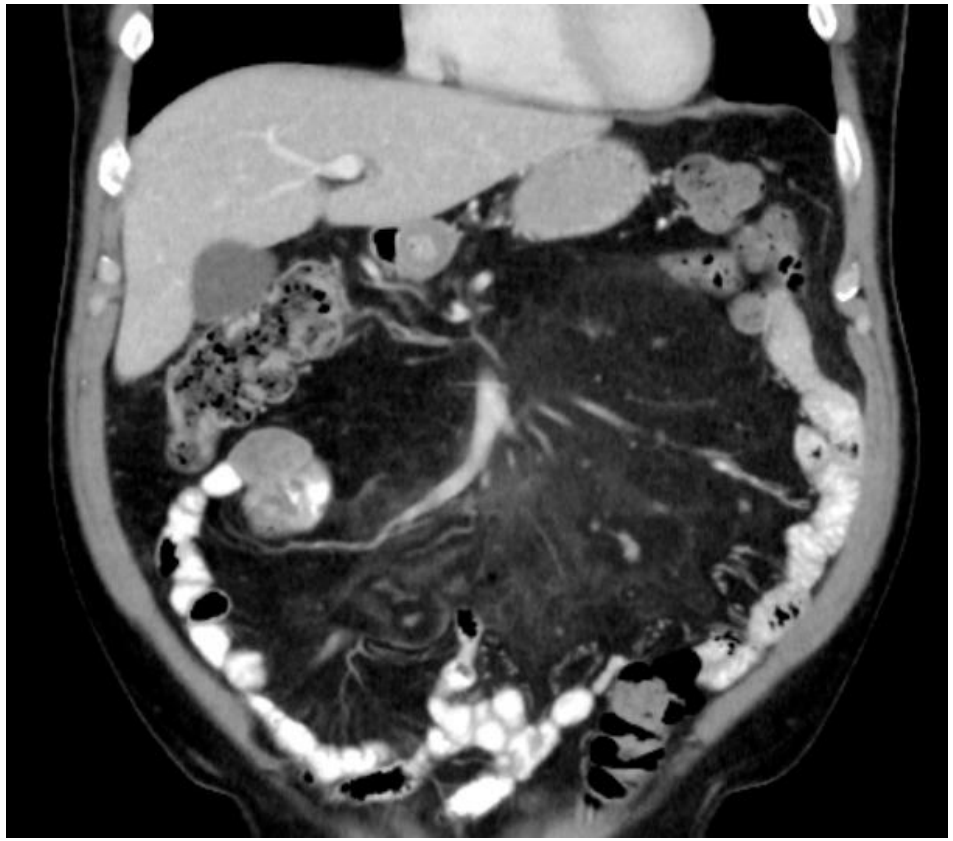
Sulbaran M, Chen FK, Farraye FA, Hashash JG. A Clinical Review of Mesenteric Panniculitis. Gastroenterol Hepatol (N Y). 2023 Apr;19(4):211-218.
Horton KM, Lawler LP, Fishman EK. CT findings in sclerosing mesenteritis (panniculitis): spectrum of disease. Radiographics. 2003 Nov-Dec;23(6):1561-7.

Imaging features

- The small bowel mesentery is by the far the most common site for this process but the sigmoid mesocolon and omentum are other possible sites.
- Appearances are of a well-defined ground glass attenuation lesion within the mesentery (commonly described as a ‘misty mesentery’). Mass effect can be observed but local invasion does not occur.
- Within the lesion are small volume lymph nodes and occasionally calcification.
- A classic imaging feature is the ‘fat ring’ sign which involves sparing of the mesenteric fat around the nodules and traversing blood vessels.
- These findings are seen on both MRI and CT. In cases where PET-CT has been performed, mesenteric panniculitis is not PET avid.

Eze VN, Halligan S. Mesenteric panniculitis: a clinical conundrum. Br J Radiol. 2023 Feb;96(1142):20211369.
Horton KM, Lawler LP, Fishman EK. CT findings in sclerosing mesenteritis (panniculitis): spectrum of disease. Radiographics. 2003 Nov-Dec;23(6):1561-7.

Mesenteric Panniculitis on CT



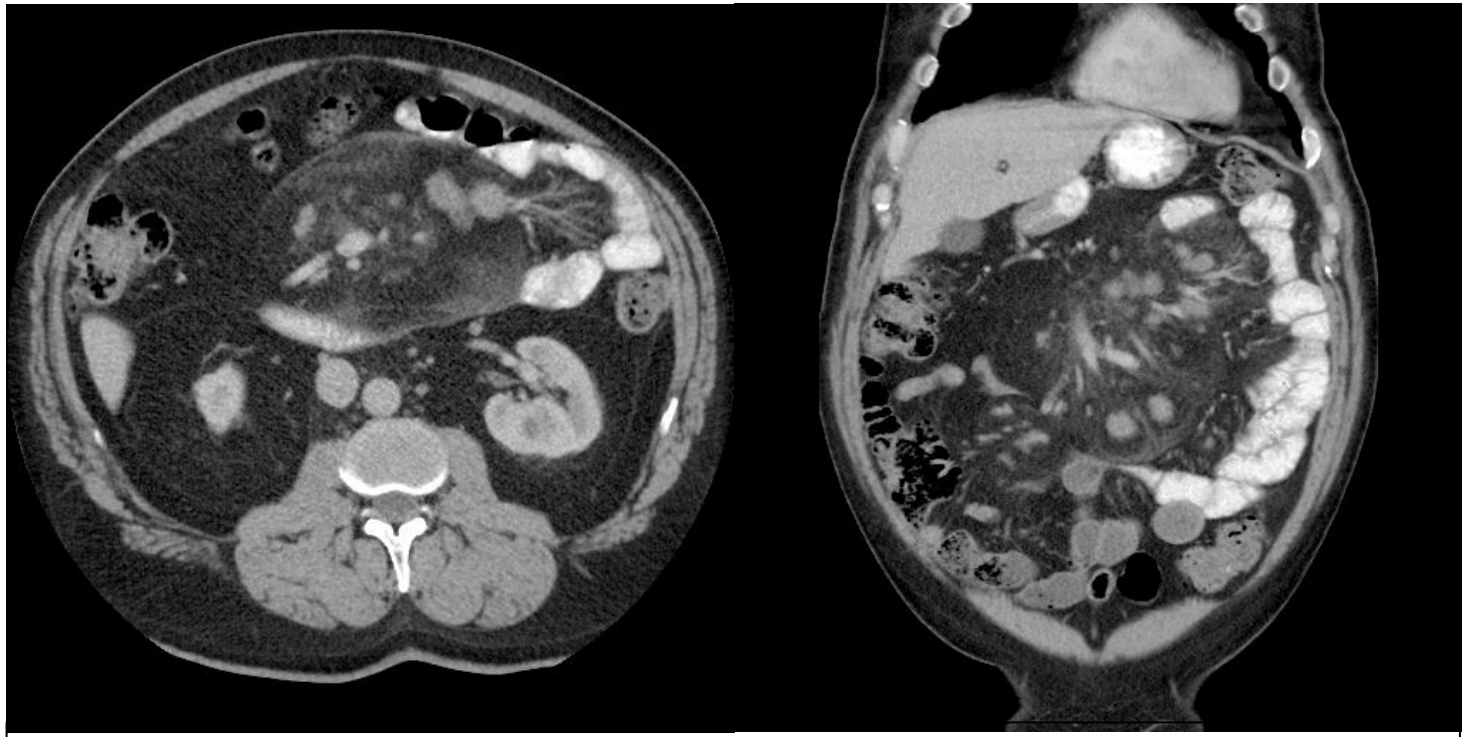
Ground glass ‘haziness’ of the small bowel mesentery with sparing of the mesenteric fat surrounding the small volume lymph nodes and mesenteric vessels

Al Salam H, Mesenteric panniculitis and urolithiasis. Case study, Radiopaedia.org https://doi.org/10.53347/rID-10092
Hartung M, Mesenteric panniculitis. Case study, Radiopaedia.org https://doi.org/10.53347/rID-198582

Differentials

- Mesenteric lymphoma – lymph nodes within the mesentery will usually be larger (>1cm short axis) with other sides of lymphadenopathy also observed.
- Omental infarct/epiploic appendagitis – less commonly present in the small bowel mesentery, usually a fat density lesion with steaks/areas of fluid and necrosis rather than a generalised haziness.
- Reactive to other intra-abdominal abnormality – presence of an additional pathology such as pancreatitis.

Differentials



Mesenteric lymphoma – large volume rounded lymph nodes (>2cm in short axis). The haziness of the mesentery is comparable to that of the benign mesenteric panniculitis.

Omental infarct – the central fat remains a normal attenuation with no haziness. Pockets of fluid are seen within the infarct. There are no lesional lymph nodes.

Di Muzio B, Follicular lymphoma - mesenteric lymphadenopathy. Case study, Radiopaedia.org https://doi.org/10.53347/rID-60182
Radswiki T, Omental infarction. Case study, Radiopaedia.org https://doi.org/10.53347/rID-11689

Methods

- We performed a PACS search for the keyword ‘Mesenteric panniculitis’ within the Radiology report between January 2012 and December 2016 to identify new cases.

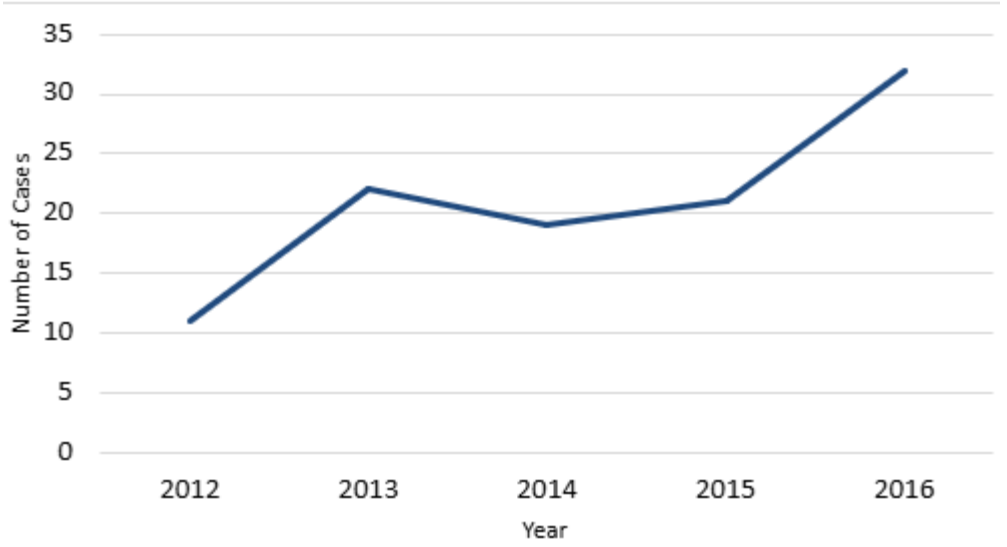
- Basic patient information collected including the reason the study was performed.

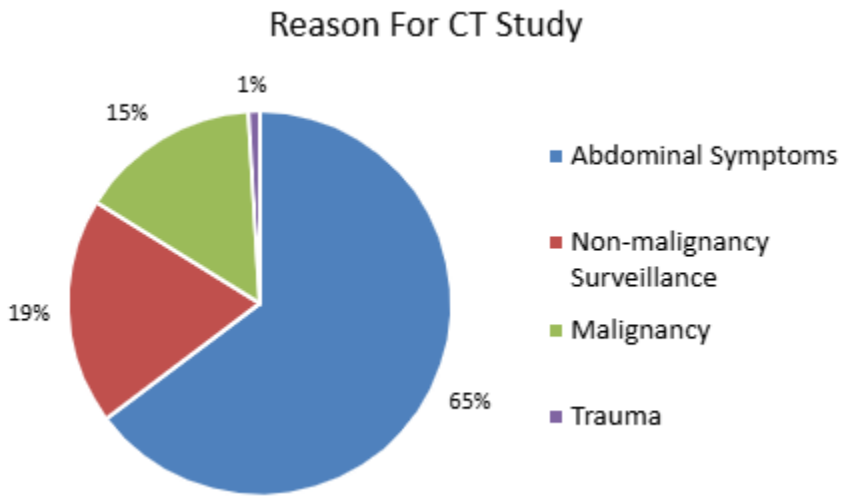
- Primarily we collected data on:
  1. If a follow up scan was suggested, was this done?
  2. If a follow up scan was not suggested, was one done anyway?

- In cases where follow up was performed, we reviewed the imaging findings of these.

Results

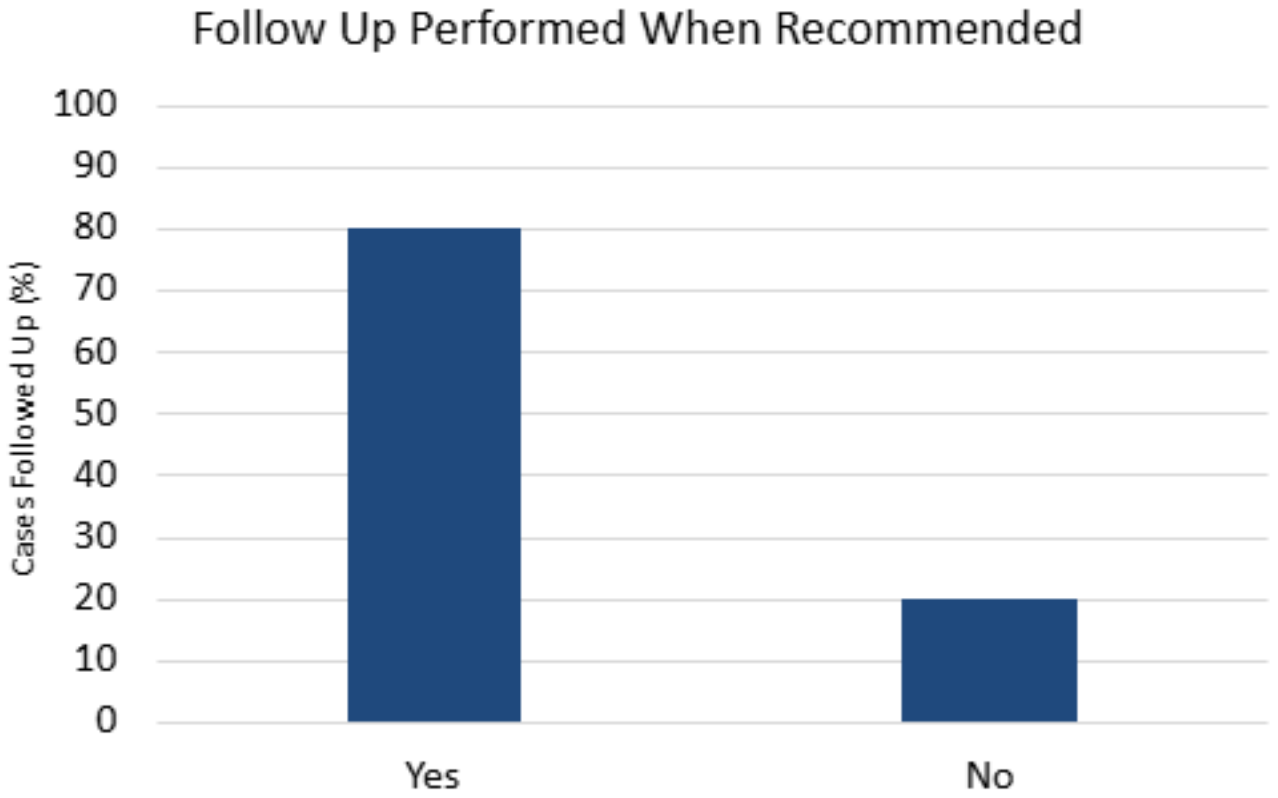
- 105 cases were identified in the study period with a significant increase in numbers from 11 in 2012 to 32 in 2016.
- Male to female ratio 3:1 with an age range 21-85 (mean 60/median 63), consistent with the literature.
- Most common reason for imaging was an abdominal symptom, e.g. pain.





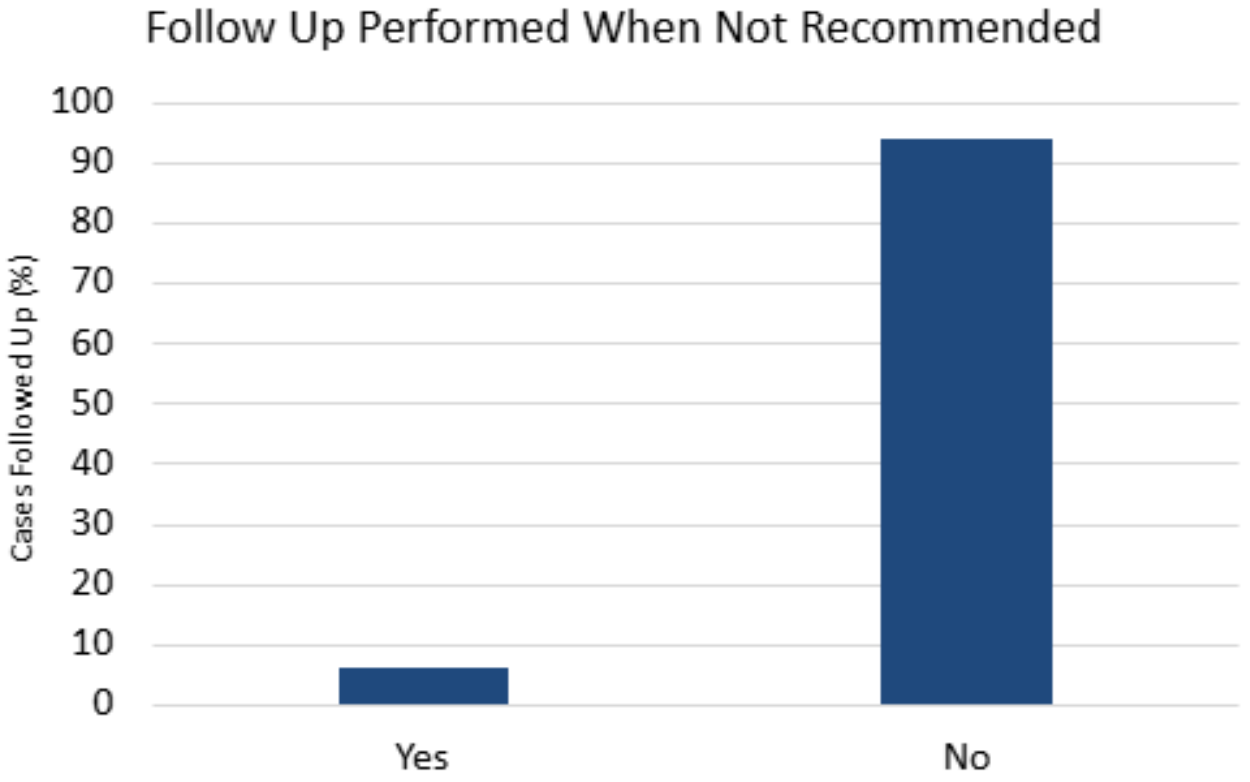
Results

- Follow up recommended in the radiological report for 10/105 cases.
- One case followed up for 4 years total.
- All cases with subsequent imaging remained stable or resolved.



Results

- 6/95 cases with follow up despite no specific recommendation in the report.
- All cases remained stable or resolved.



Limitations

- Only included “mesenteric panniculitis” as a search term – has also uncommonly been described as sclerosing mesenteritis or retractile mesenteritis.
- Follow up decisions may have been made during MDT/informal discussion between referrer and Radiology team.
- Recommended follow up may have been deemed unnecessary/not clinically appropriate by the vetting Radiologist.
- Data from 2012-2016.
- Not powered/aimed to assess beyond the follow up imaging burden.

Service Evaluation Discussion

- There are an increasing number of CT scans with mesenteric panniculitis in the findings. This may be due to increased availability of imaging or increased awareness of mesenteric panniculitis by reporters.
- Radiologist recommendations for follow up are not always followed.
- None of the cases that had follow up imaging showed progression to malignancy. The majority remained stable.
- It is important to be aware of imaging differentials as some similarities exist between conditions.

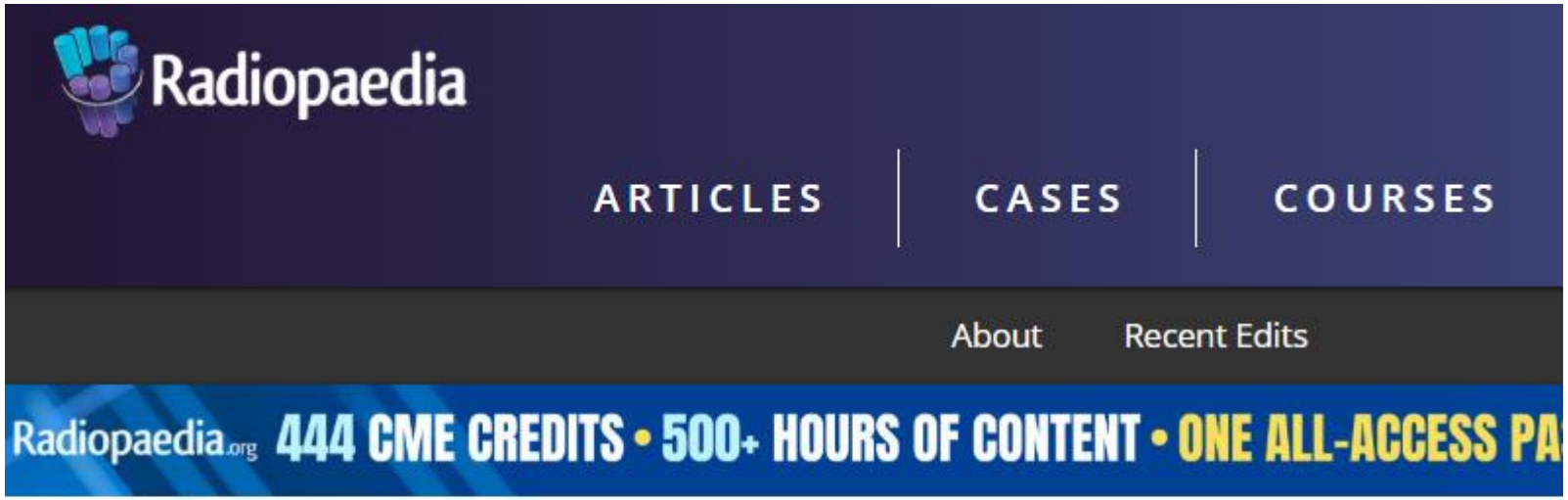
Literature Review Background
or
“So why do we still worry about Lymphoma?”

- A recent systematic review (Halligan et al. 2016) published in European Radiology assessed the association between mesenteric panniculitis and subsequent malignancy. Due to study heterogeneity and biases, no published study could determine an association between mesenteric panniculitis and subsequent malignancy.

- During our background research for the topic, we visited the Radiopaedia website. This reported a 10% risk of developing lymphoma in cases of mesenteric panniculitis with two references – we explored this.

Halligan S, Plumb A, Taylor S. Mesenteric panniculitis: systematic review of cross-sectional imaging findings and risk of subsequent malignancy. Eur Radiol. 2016 Dec;26(12):4531-4537

Start of the Search



Sclerosing mesenteritis

Last revised by Benjamin Layton on 18 Nov 2025

Associations

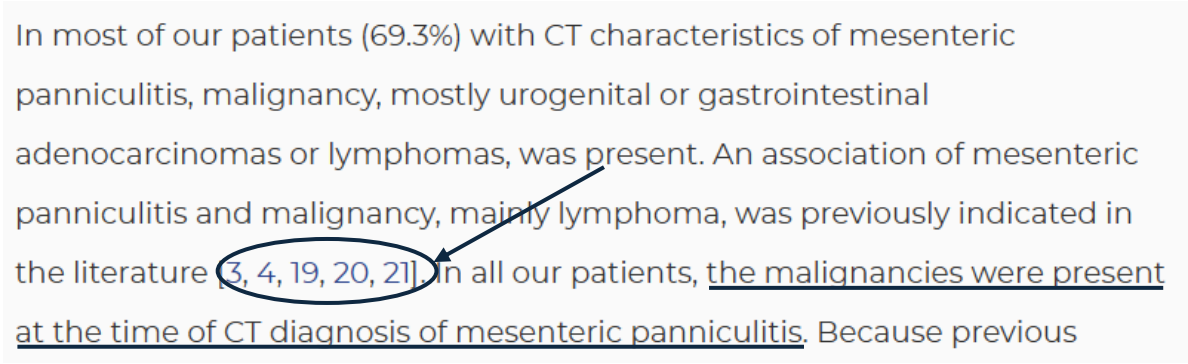
Numerous associated conditions have been suggested including [1,4]:

- malignancy
  - systemic lymphoma [1,20] (up to 10% risk of developing lymphoma)

Singh G, Layton B, Kearns C, et al. Sclerosing mesenteritis. Reference article, Radiopaedia.org (Accessed on 26 Jan 2026) https://doi.org/10.53347/rID-4975

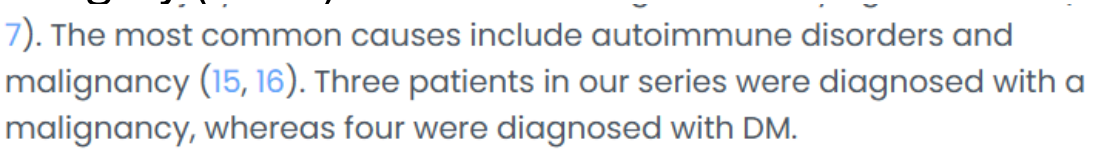
Exploring the Literature 1

Citation 1: CT Evaluation of Mesenteric Panniculitis: Prevalence and Associated Diseases – American Journal of Roentgenology (2012)


In most of our patients (69.3%) with CT characteristics of mesenteric panniculitis, malignancy, mostly urogenital or gastrointestinal adenocarcinomas or lymphomas, was present. An association of mesenteric panniculitis and malignancy, mainly lymphoma, was previously indicated in the literature [3, 4, 19, 20, 21]. In all our patients, the malignancies were present at the time of CT diagnosis of mesenteric panniculitis. Because previous

6 of 49 cases had mesenteric panniculitis with synchronous lymphoma – **they did not develop lymphoma after a diagnosis of mesenteric panniculitis.**

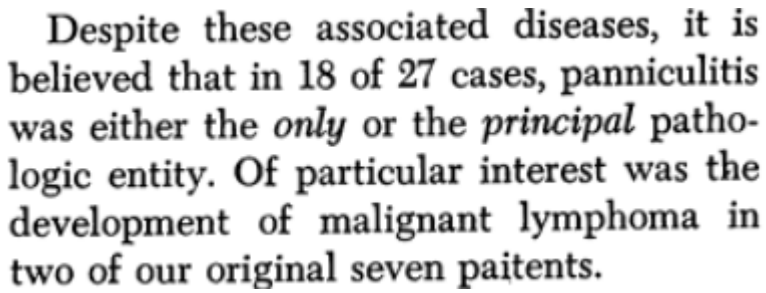
Citation 2: Approach to the diagnosis and treatment of mesenteric panniculitis from the surgical point of view – Turkish Journal of Surgery (2018)


7). The most common causes include autoimmune disorders and malignancy (15, 16). Three patients in our series were diagnosed with a malignancy, whereas four were diagnosed with DM.

Only 22 cases reviewed. **No mention in the paper at all of lymphoma.** Only three cases of malignancy – it is not clear from the study whether this was subsequent to or concurrent with the mesenteric panniculitis.

Exploring the Literature 2

Citation 3: Mesenteric Panniculitis: Review of 27 Cases – Annals of Surgery (1965)



Despite these associated diseases, it is believed that in 18 of 27 cases, panniculitis was either the *only* or the *principal* pathologic entity. Of particular interest was the development of malignant lymphoma in two of our original seven paitents.

2 of 27 cases developed lymphoma (supraclavicular lymphadenopathy).
There was no CT examination of any patient, diagnosis of mesenteric panniculitis made histologically post-surgery.

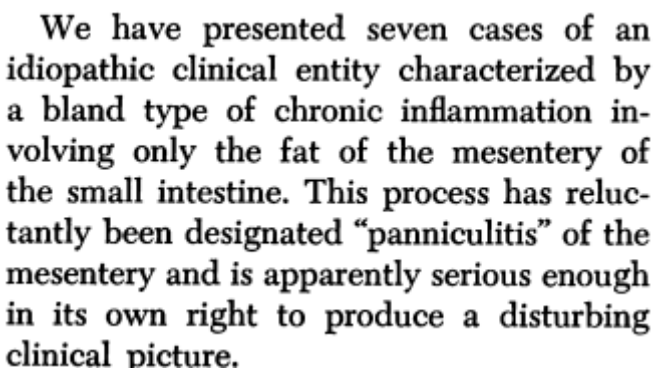
Citation 4: Mesenteric lipodystrophy – Annals of Internal Medicine (1974)

The course of the untreated disease was usually benign. The commonest outcome was spontaneous relief of symptoms; in some patients the disease had completely disappeared at subsequent abdominal operation. No treatment was of proved benefit. Eight patients (15%) also were found to have malignant lymphomas. The nature of this association remains unexplained.

Unable to review full paper. No CT imaging performed. Diagnoses made on laparotomy/histology. 53 cases with 8 lymphomas, again the timeline of this is unclear with historic investigation/management.

Exploring the Literature 3

Citation 5: Panniculitis of the Mesentery – Annals of Surgery (1960)



We have presented seven cases of an idiopathic clinical entity characterized by a bland type of chronic inflammation involving only the fat of the mesentery of the small intestine. This process has reluctantly been designated "panniculitis" of the mesentery and is apparently serious enough in its own right to produce a disturbing clinical picture.

7 cases of mesenteric panniculitis diagnosed following surgery with histology.
There were no cases of malignancy at all with **no mention of lymphoma in the paper.**

Citation 6: Mesenteric lipodystrophy: differential diagnosis of a benign abdominal tumor – Wiener Medizinische Wochenschrift

In a clinical presentation of a patient with mesenteric lipodystrophy the usefulness of the two imaging procedures ultrasound and computeromography is firstly demonstrated. Both methods have proven as good means in early diagnosis and patients follow up. Combination of ultrasound and guided tumor puncture is able to establish diagnosis avoiding laparotomy. For the follow up of these patients ultrasound and computertomography are valuable.

Full paper not available for review.
No suggestion that malignancy or lymphoma are to be referenced (full abstract above).

Exploring the Literature 4

Citation 7: Thoracic mesothelioma associated with abdominal mesenteric panniculitis – American Journal of Gastroenterology (1994)

pyrexia, and space-occupying peritoneal masses. We report a patient with MP, severe enough to require immunosuppressant treatment, who developed a recurrent pleural effusion. Malignant mesothelioma was identified in the pleural space 3 yr after initial pleural investigation. This case is the second report of pleural effusion associated with MP. It is the first report in which thoracic mesothelioma and MP occurred together. MP has been associated with other malignancies.

Full paper not available for review.
Case report of mesothelioma post-diagnosis of mesenteric panniculitis. **No mention of lymphoma.**

Summary

- Following the assertion of an association of mesenteric panniculitis with subsequent lymphoma through literature citations does not provide high quality or high-powered studies with many citations having no reference to lymphoma at all.
- It is important when reviewing literature or checking facts using sites that allow user submitted content that the sources are reliable and truly assert the point that is being made.
- Several higher-powered studies have been performed more recently suggesting no association.

▸ Medicine (Baltimore). 2022 May 6;101(17):e29143. doi: 10.1097/MD.0000000000029143

Mesenteric panniculitis does not confer an increased risk for cancers

A systematic review and meta-analysis

Ikram Hussain [a,*], Saba Ishrat [b], Veeraraghavan Meyyur Aravamudan [c], Shahab R Khan [d], Babu P Mohan [e], Rahul Lohan [f], Muhammad Bilal Abid [g], Tiing Leong Ang [h]

This meta-analysis of matched controlled studies proves absence of any significant association of malignant neoplasms with MP. Our study also demonstrates that the putative association of malignancy with MP is mainly driven by uncontrolled studies or case-series.

JOURNAL ARTICLE

Cohort study of mesenteric panniculitis and its relationship to malignancy Get access ›

P Buchwald ✉, L Diesing, L Dixon, C Wakeman, T Eglinton, B Dobbs, F Frizelle

British Journal of Surgery, Volume 103, Issue 12, November 2016, Pages 1727–1730, https://doi.org/10.1002/bjs.10229

Published: 12 August 2016 **Article history** ▾

MP does not behave like a paraneoplastic phenomenon. The association with malignancy is most likely an epiphenomenon of the many CT images acquired for staging of cancer.

Conclusion

- There remain ongoing concerns within the medical and Radiological community about the association between mesenteric panniculitis and lymphoma.
- The current evidence linking mesenteric panniculitis and lymphoma is weak.
- Further work needs to be conducted in this area to address these concerns and build a strong body of evidence.
- Whilst containing a wealth of knowledge, sites with user submitted content should not in any way be seen as a replacement for consultation with colleagues or other sources, or as a substitute for conventional training and study.

https://radiopaedia.org/terms?lang=gb#medical-disclaimer accessed 26/01/26