



Benign mesothelioma of the appendix: an incidental finding in a case of sigmoid diverticular disease

A Bansal and H D Zakhour

J. Clin. Pathol. 2006;59:108-110
doi:10.1136/jcp.2005.026674

Updated information and services can be found at:
<http://jcp.bmj.com/cgi/content/full/59/1/108>

These include:

Rapid responses

You can respond to this article at:
<http://jcp.bmj.com/cgi/eletter-submit/59/1/108>

Email alerting service

Receive free email alerts when new articles cite this article - sign up in the box at the top right corner of the article

Topic collections

Articles on similar topics can be found in the following collections

[Histopathology](#) (997 articles)
[Other Gastroenterology](#) (766 articles)

Notes

To order reprints of this article go to:
<http://www.bmjournals.com/cgi/reprintform>

To subscribe to *Journal of Clinical Pathology* go to:
<http://www.bmjournals.com/subscriptions/>

LETTER TO THE EDITOR

Benign mesothelioma of the appendix: an incidental finding in a case of sigmoid diverticular disease

A Bansal, H D Zakhour

J Clin Pathol 2006;**59**:108–110. doi: 10.1136/jcp.2005.026674

Benign multicystic mesothelioma is a well recognised but rare entity. The aim of this report is to describe a case of a small mesothelial proliferation of the peritoneum. A 58 year old postmenopausal woman presented with left sided abdominal pain and altered bowel habit. Radiological investigations (barium enema and computed tomography scan of the abdomen and pelvis) were undertaken. An operation was performed for symptomatic sigmoid diverticular disease. Unusually, the appendix was adherent to the sigmoid colon. Microscopy revealed a benign mesothelioma. The patient remains symptom free to date.

A 58 year old, female, ex-smoker was admitted via the accident and emergency department because of sudden onset left sided lower abdominal pain and altered bowel habit. She had been constipated for two weeks and reported losing about 3 kg over the past three months. Her past medical history included ischaemic heart disease, hypertension, and peripheral vascular disease.

Examination on admission revealed left iliac fossa tenderness and vaginal bleeding.

A pelvic ultrasound showed no ovarian abnormality or ascitic fluid, effectively excluding the clinically suspected possibility of an ovarian cyst.

A barium enema was performed and demonstrated "moderate diverticular disease within the sigmoid colon, but no other significant pathology". Fever after the radiological examination prompted an abdominal computed tomography scan, which revealed "a 4 × 2 × 2 cm fluid density collection in the right hemi pelvis with a thin enhancing wall and some internal septations but no significant intra-abdominal collection of fluid".

About five months after initial presentation, a left hemicolectomy and appendicectomy was undertaken. The surgical findings were "sigmoid colon adherent to the left pelvic side in association with significant thickening of the bowel wall. The appendix tip was involved in this inflammatory area."

PATHOLOGICAL FINDINGS

The appendix and sigmoid colon were sent separately.

Macroscopy

The appendix appeared unremarkable.

The segment of sigmoid colon measured 255 mm in length with a congested serosal surface.

The bowel wall was greatly thickened (up to 8 mm), with numerous apparent diverticulae present along the length of the specimen. No focal lesions were identified.

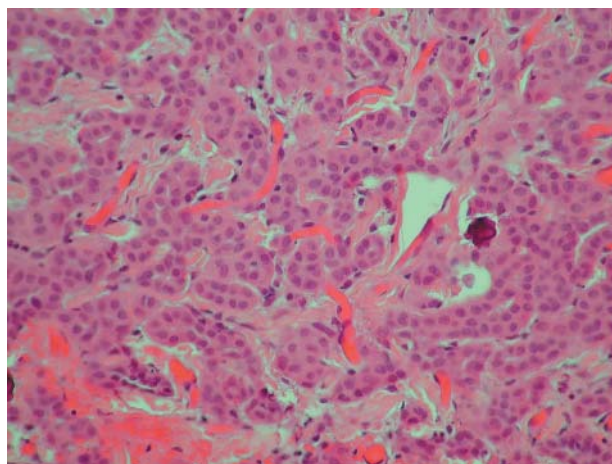


Figure 1 Benign mesothelioma of the appendix: lesion displaying the interweaving papillae comprising bland uniform cuboidal cells. Occasional psammoma bodies are seen. Original magnification, ×40.

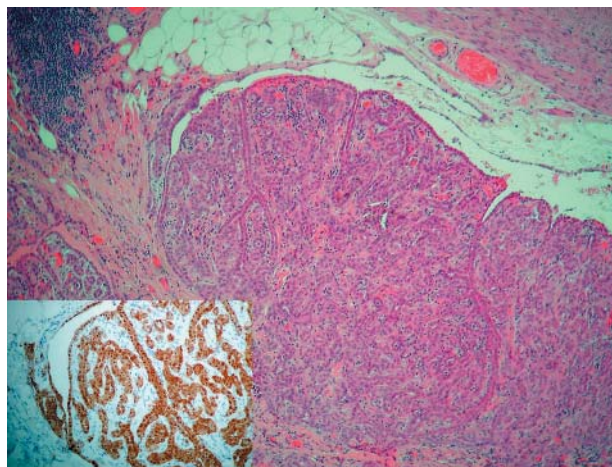


Figure 2 Benign mesothelioma of the appendix: lesion arising from the serosal surface of the appendix with unapparent traditionally described cystic structures. Inset: Immunohistochemical positivity for the calcium binding protein calretinin. Original magnification, ×10.

Microscopy

The appendix itself was unremarkable. However, arising from the serosal surface was a lesion composed of uniform bland cuboidal cells with indistinct cell borders forming papillae and ill defined tubular structures.

Abbreviation: BMMP, benign multicystic mesothelioma of the peritoneum

Table 1 Immunohistochemical profile of the lesional cells

Positive	Negative
Calretenin	CEA-M
CK7	Ber EP4
CK5/6	CK20
	CD68

CEA-M, carcinoembryonic antigen (membrane staining); CK, cytokeratin.

Examination of the sigmoid colon confirmed diverticular disease. There was no evidence of diverticulitis, cytological atypia, or neoplasia. A lymph node sampled showed reactive changes only.

Immunohistochemistry

Table 1 shows the immunohistochemical profile of the cells making up the lesion adherent to the serosal surface of the appendiceal wall.

The findings in this case were those of a small benign mesothelioma.

DISCUSSION

Benign mesothelioma is a rare but recognised entity referred to in the literature as benign multicystic mesothelioma of the peritoneum (BMMP),¹ and is also known as peritoneal inclusion cysts.

A rare lesion, it mainly arises from the serosal surfaces of the ovary, uterus, bladder, and rectum. A single case report of an identical lesion in the pleural cavity has been reported.²

McFadden and Clement undertook a clinicopathological analysis of six cases of BMMP.³ All six cases had several common features: all occurred in women (age range, 15–51 years; median, 37) presenting with abdominal symptoms, who had invariably in the past undergone gynaecological surgery. However, all these cases were seen in association with one or both ovaries. Previous exposure to asbestos was absent in all cases.

As far as we are aware, this is the first case of an incidental mesothelioma seen in a patient in association with diverticular disease of the large intestine. A literature search (using the NCBI PubMed database) revealed only three other case

Table 2 The likelihood (probability) of a benign mesothelioma with the immunohistochemical profile found in our patient occurring by chance alone

Immunohistochemical stain	% Positivity	
Calretenin	97	Probability: 15.5%
CK5/6	80	
CK7	20	

CK, cytokeratin.

Table 3 The probability of CK5/6, CK7, and calretinin arriving at a diagnosis of benign mesothelioma

Diagnosis	CK5/6	CK7	Calretinin
Benign mesothelioma	80%	74%	84%

The probability of the above IHC profile for the entity "benign mesothelioma" is 50%.
CK, cytokeratin.

Take home messages

- We describe the case of an incidental benign mesothelioma on the serosal surface of the appendix occurring in a patient with diverticular disease who presented with sudden onset acute abdominal pain
- Immunohistochemistry using these "newer" markers should be used only as an adjunct in arriving at a final diagnosis
- Newer markers to confirm mesothelial origin may be no more robust than older ones and further studies are required to provide more precise markers

reports of BMMP associated with the appendix.^{4–6} Two of these case reports were in middle aged women. The first was in a 53 year old woman presenting with abdominal pain, where laparoscopy revealed a 7 cm retroperitoneal mass close to but not involving the caecal serosal surface.⁴ The second was a small cystic mass involving the visceral and parietal layers of the peritoneum in the appendiceal region in a 40 year old woman with clinical signs of acute appendicitis.⁵ The third report was of a 28 year old man presenting with the symptomatology of acute appendicitis, where a 25 cm cystic appendiceal mass was found.⁶ Only an estimated 17% of BMMPs occur in men.

"As far as we are aware, this is the first case of an incidental mesothelioma seen in a patient in association with diverticular disease of the large intestine"

In our case, cystic structures were not seen microscopically. The architecture was tubulopapillary and occasional laminated concretions (psammoma bodies) were seen. We suspect that the examined lesion was only part of a larger mass. Clinically, the symptoms appear to have been mostly related to the concomitant diverticular disease of the sigmoid colon, with symptoms of acute appendicitis itself being absent. It is probable that this finding was entirely incidental.

This lesion was negative for CD68, a marker mostly positive in an entity called nodular histiocytic/mesothelial hyperplasia. This entity, which comprises an admixture of mainly histiocytes and some mesothelial cells, can be mistaken for a mesothelioma or carcinoma by the unwary.

Table 2 shows the likelihood (probability) of a benign mesothelioma with the above immunohistochemical profile occurring by chance alone (DM Frisman. ImmunoQuery; www.ipox.org).

Taking a different perspective and looking at this panel of markers in arriving at a diagnosis of benign mesothelioma, table 3 shows the results obtained for a benign mesothelioma (DM Frisman. ImmunoQuery; www.ipox.org).

These results show that current markers are unsatisfactory for confirming the mesothelial nature of a neoplasm.

Whether BMMPs are reactive or neoplastic in nature remains unresolved.⁷

Authors' affiliations

A Bansal, H D Zakhour, Department of Histopathology, Arrowe Park Hospital, Wirral CH49 5PE, UK

Correspondence to: Dr A Bansal, Department of Histopathology, Arrowe Park Hospital, Wirral CH49 5PE, UK; ashishbansal@doctors.org.uk

Accepted for publication 12 April 2005

REFERENCES

- 1 **Battifora H**, McCaughey WTE. *Tumours of the serosal membranes*. Washington DC: Armed Forces Institute of Pathology, 1995.
- 2 **Ball NJ**, Urbanski SJ, Green FH, *et al*. Pleural multicystic mesothelial proliferation. *Am J Surg Pathol* 1990;**14**:375–80.
- 3 **McFadden DE**, Clement PB. Peritoneal inclusion cysts with mural mesothelial proliferation. A clinicopathological analysis of six cases. *Am J Surg Pathol* 1986;**10**:844–54.
- 4 **Suh YL**, Choi WJ. Benign cystic mesothelioma of the peritoneum—a case report. *J Korean Med Sci* 1989;**4**:111–15.
- 5 **Betta PG**, Robutti F, Spinoglio G. [Benign cystic mesothelioma of the peritoneum. In Italian.] *G Ital Oncol* 1989;**9**:39–42.
- 6 **Cavallaro A**, Murazio M, Modugno P, *et al*. Benign multicystic mesothelioma of the peritoneum: a case report. *Chir Ital* 2002;**54**:569–72.
- 7 **Rosai J**. Respiratory tract: nasal cavity, paranasal sinuses, and nasopharynx—larynx and trachea—lung and pleura. In: Rosai J, ed. *Rosai and Ackerman's surgical pathology*. Mosby, 2004:2375–6.

Clinical Evidence—Call for contributors

Clinical Evidence is a regularly updated evidence-based journal available worldwide both as a paper version and on the internet. *Clinical Evidence* needs to recruit a number of new contributors. Contributors are healthcare professionals or epidemiologists with experience in evidence-based medicine and the ability to write in a concise and structured way.

Areas for which we are currently seeking contributors:

- Pregnancy and childbirth
- Endocrine disorders
- Palliative care
- Tropical diseases

We are also looking for contributors for existing topics. For full details on what these topics are please visit www.clinicalevidence.com/cweb/contribute/index.jsp

However, we are always looking for others, so do not let this list discourage you.

Being a contributor involves:

- Selecting from a validated, screened search (performed by in-house Information Specialists) epidemiologically sound studies for inclusion.
- Documenting your decisions about which studies to include on an inclusion and exclusion form, which we keep on file.
- Writing the text to a highly structured template (about 1500-3000 words), using evidence from the final studies chosen, within 8-10 weeks of receiving the literature search.
- Working with *Clinical Evidence* editors to ensure that the final text meets epidemiological and style standards.
- Updating the text every 12 months using any new, sound evidence that becomes available. The *Clinical Evidence* in-house team will conduct the searches for contributors; your task is simply to filter out high quality studies and incorporate them in the existing text.

If you would like to become a contributor for *Clinical Evidence* or require more information about what this involves please send your contact details and a copy of your CV, clearly stating the clinical area you are interested in, to CECommissioning@bmjgroup.com.

Call for peer reviewers

Clinical Evidence also needs to recruit a number of new peer reviewers specifically with an interest in the clinical areas stated above, and also others related to general practice. Peer reviewers are healthcare professionals or epidemiologists with experience in evidence-based medicine. As a peer reviewer you would be asked for your views on the clinical relevance, validity, and accessibility of specific topics within the journal, and their usefulness to the intended audience (international generalists and healthcare professionals, possibly with limited statistical knowledge). Topics are usually 1500-3000 words in length and we would ask you to review between 2-5 topics per year. The peer review process takes place throughout the year, and out turnaround time for each review is ideally 10-14 days.

If you are interested in becoming a peer reviewer for *Clinical Evidence*, please complete the peer review questionnaire at www.clinicalevidence.com/cweb/contribute/peerreviewer.jsp