

## CASE REPORT

# Amyloidosis of the Seminal Vesicles: An Incidental Finding

Zakaria Merad<sup>1</sup>, Houria Belkralladi<sup>1</sup>, Derouicha Matmour<sup>2</sup>, Zoubir Belmokhtar<sup>3</sup>, Hichem Derrar<sup>4</sup>, Yassine Merad<sup>2</sup>

1 Pathology Department, Hassani Abdelkader Hospital, Université de Sidi-Bel-Abbès (Djillali Liabès), Algeria

2 Central Laboratory, Hassani Abdelkader Hospital, Université de Sidi-Bel-Abbès (Djillali Liabès), Algeria

3 Department of Environmental Sciences, Faculty of Natural Sciences, Université de Sidi-Bel-Abbès (Djillali Liabès), Algeria

4 Pulmonary Department, Hassani Abdelkader Hospital, Université de Sidi-Bel-Abbès (Djillali Liabès), Algeria

**Funding:** No specific funding was received for this work.

**Potential competing interests:** No potential competing interests to declare.

## Abstract

Seminal vesicle amyloidosis is a rare condition. We report a case of a 65-year-old man who underwent radical prostatectomy for grade 3 prostatic adenocarcinoma with a Gleason score of 7 (3+4). Histological analysis of the seminal vesicles revealed amyloidosis, confirmed by Congo Red staining. While the discovery of seminal vesicle amyloidosis raises the possibility of systemic amyloidosis, in this case, the amyloidosis appeared to be localized to the seminal vesicles.

## Introduction

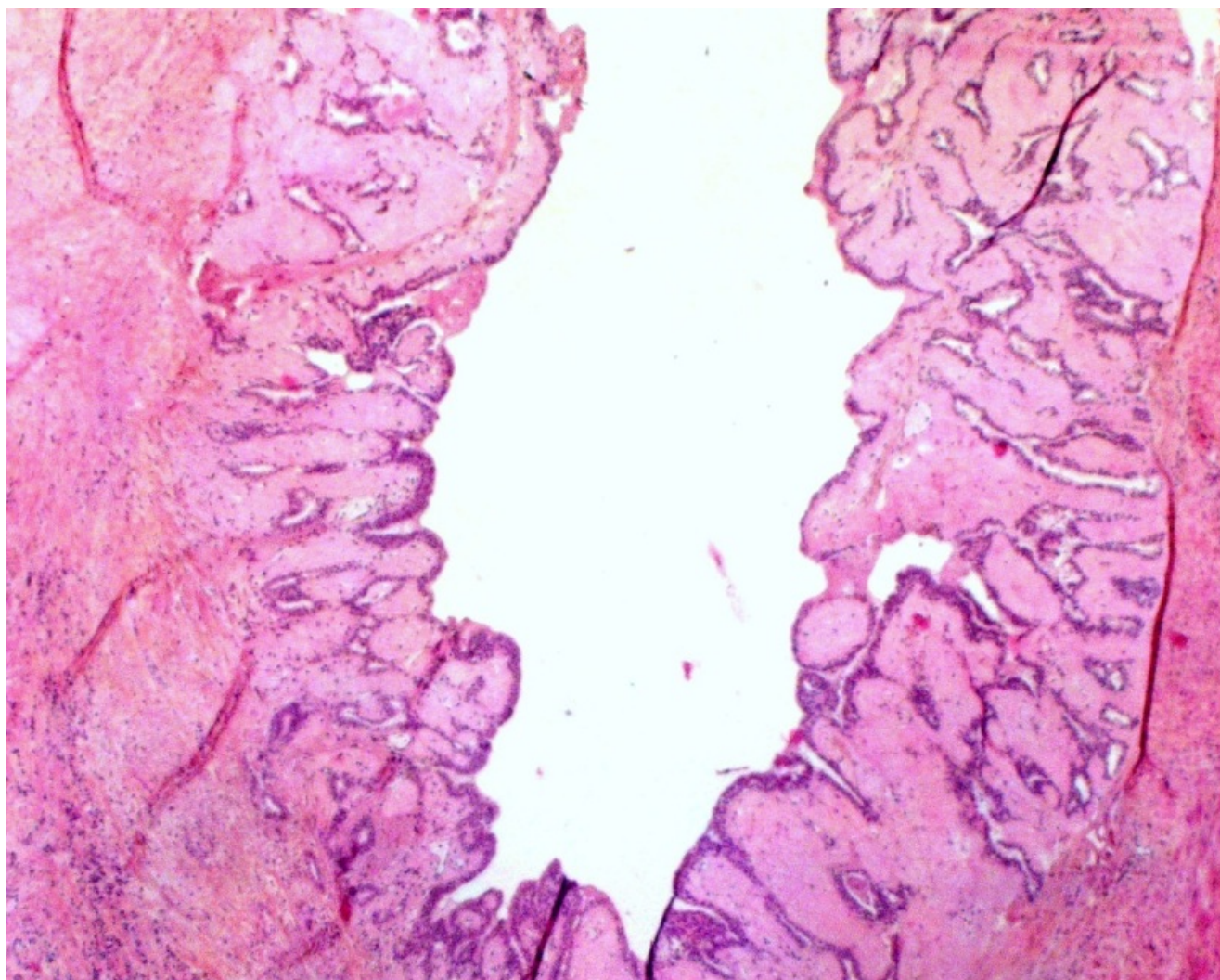
Seminal vesicle amyloidosis is a rare condition, often incidentally found during radical prostatectomy or autopsy<sup>[1]</sup>. It has a prevalence of 9-16% in autopsy series where it was systematically searched for and histologically confirmed<sup>[1][2]</sup>. While it can present with hematospermia<sup>[2]</sup>, some authors suggest an association with neoadjuvant hormone therapy<sup>[3]</sup>. This case highlights the rare occurrence of seminal vesicle amyloidosis and underscores the importance of histological examination.

## Case report

A 65-year-old male with no significant medical history presented with pollakiuria for three months. Physical examination revealed a firm prostate on digital rectal exam. Transrectal ultrasound showed a heterogeneous prostate gland, and the prostate-specific antigen (PSA) level was elevated at 15 ng/ml. A prostate biopsy confirmed a moderately differentiated adenocarcinoma with a Gleason score of 7 (3+4). A follow-up bone scan showed no evidence of metastatic disease. A multidisciplinary tumor board recommended radical prostatectomy.

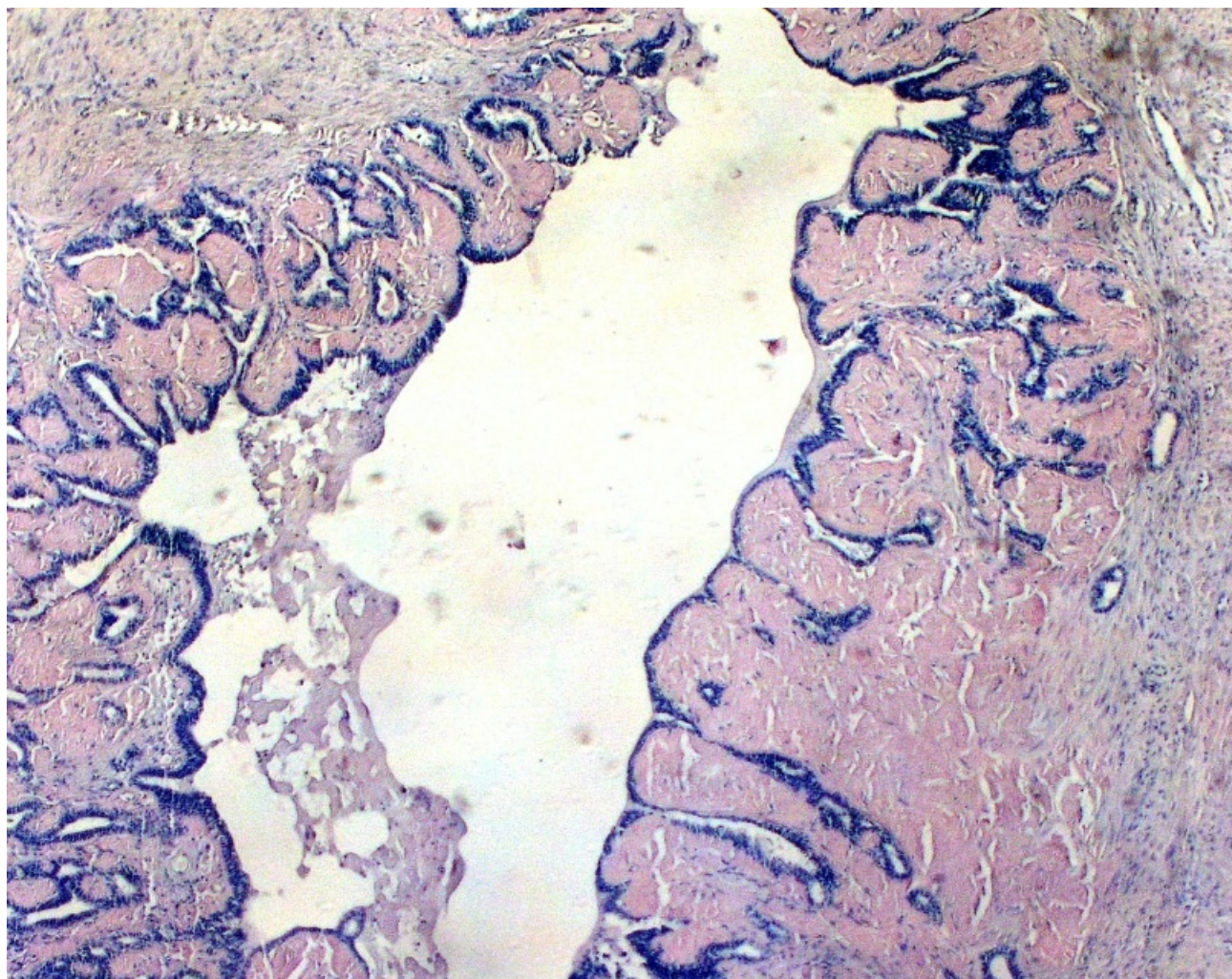
The examination of the surgical specimen confirmed the diagnosis of prostate cancer, a grade 3 adenocarcinoma with a Gleason score of 7 (3+4). Contrary to expectation, histological examination, initially using Hematoxylin-Eosin staining (Figure 1), suggested amyloid deposits. Subsequent Congo Red staining (Figure 2) confirmed the presence of amyloid

deposits under the epithelium of the seminal vesicles. Prior to this discovery, additional investigations (renal, hepatic, cardiac, and musculoskeletal) were performed to rule out systemic amyloidosis, but no other sites of involvement were identified. The surgical follow-up was uncomplicated, and the patient was discharged after four days of hospitalization with scheduled quarterly follow-up visits.



**Figure 1.** Amyloid deposits under the epithelium of the seminal vesicles (Hematoxylin and Eosin stain) x5





**Figure 2.** Pink, shiny amyloid deposits under the epithelium of the seminal vesicles (Special Congo Red stain) x5

## Discussion

Amyloidosis, a disease of unknown etiology characterized by extracellular amyloid protein deposits<sup>[1]</sup>, rarely presents as isolated seminal vesicle amyloidosis. It is typically an incidental finding on radical prostatectomy specimens for prostate cancer or autopsy specimens<sup>[2]</sup>. The typical age of onset for this pathology is between 50 and 80 years<sup>[3][4]</sup>, consistent with our patient's age.

A definitive diagnosis of amyloidosis can only be made by histological examination with Congo Red staining, which highlights amyloid deposits<sup>[5]</sup>. While Unger et al. suggested a potential association between amyloid deposits and hormone therapy<sup>[6]</sup>, our patient did not receive hormonal therapy. AA amyloidosis is secondary to chronic inflammation or malignancy and can lead to renal failure. AL and AH amyloidosis are immunoglobulin-light-chain amyloidoses associated with multiple myeloma and Waldenström macroglobulinemia, respectively, and can affect the heart. Amyloidosis associated with  $\beta$ 2-microglobulin, common in hemodialysis patients, can lead to joint damage<sup>[7][8]</sup>. Amyloid typing was not performed in this case due to unavailability. In this case, seminal vesicle amyloidosis was an incidental finding, and further

investigations did not reveal evidence of systemic amyloidosis.

## Conclusion

Amyloidosis of the seminal vesicles is a rare condition. This case underscores the need for comprehensive evaluation to identify other potential sites and the crucial role of histological examination with Red Congo staining for definitive diagnosis.

## Statements and Declarations

### Ethics and informed consent

Informed consent was obtained from the patient for publication of this case report.

## References

1. <sup>a, b, c</sup>Coyne JD, Kealy WF. "Seminal vesicle amyloidosis: morphological, histochemical and immunohistochemical immunohistochemical observations." *Histopathology*. 1993; 22: 173-76.
2. <sup>a, b, c</sup>Furuya S, Masumori N, Furuya R, et al. "Characterization of localized seminal vesicle amyloidosis causing hemospermia." *J. Urol.*, 2005; 173: 1273-1277.
3. <sup>a, b</sup>Kee KH, Lee MJ, Shen SS, et al. "Amyloidosis of seminal vesicles and ejaculatory ducts: a histologic analysis of 21 cases among 447 prostatectomy specimens." *Ann Diagn Pathol*. 2008 Aug; 12(4): 235-238.
4. <sup>^</sup>Erbersdobler A, Kollermann J, Graefen M, et al. "Seminal vesicle amyloidosis does not provide any protection from invasion by prostate cancer." *BJU Int*. 2009 Feb; 103(3): 324-326.
5. <sup>^</sup>Harvey I, Tetu B. "L'amyloidose des vésicules séminales, une condition localisée sans répercussion systémique." *Anna Pathol*. 2004; 24: 236-240.
6. <sup>^</sup>Unger PD, Wang Q, Gordon RE, et al. "Localized amyloidosis of the seminal vesicle. Possible association with hormonally treated prostatic adenocarcinoma." *Arch Pathol Lab Med* 1997; 121: 1265-68.
7. <sup>^</sup>Suess K, Moch H, Epper R, et al. "Heterogeneity of seminal vesicle amyloid. Immunohistochemical detection of lactoferrine and amyloid of the pre-albumin-thransthyretin type." *Pathologie*. 1998; 19: 115-9.
8. <sup>^</sup>Gilani SI, Dasari S, Tekin B. "Identification of amyloidosis of the urinary tract and prostate: Opportunities for early diagnosis & intervention in systemic disease." *Hum Pathol*. 2023.Dec; 142: 62-67.