International Clinical and Medical Case Reports Journal
Clinical Image (ISSN: 2832-5788)

# Eosinophilic Metaplasia of Epididymis

**Raghav Kapoor**[1], **Shashi Dhawan**[2*]

[1]Senior Resident, Deptt. of Pathology, Sir Gangaram Hospital, New Delhi, India

[2]Senior Consultant, Deptt. of Pathology, Sir Gangaram Hospital, New Delhi, India

**Citation:** *Raghav Kapoor, Shashi Dhawan. Eosinophilic Metaplasia of Epididymis. Int Clinc Med Case Rep Jour. 2024;3(3):1-2.*

**Received Date:** 23 March, 2024**; Accepted Date:** 25 March, 2024**; Published Date:** 27 March, 2024

***Corresponding author:** Shashi Dhawan, Senior Consultant, Deptt. of Pathology, Sir Gangaram Hospital, New Delhi, India

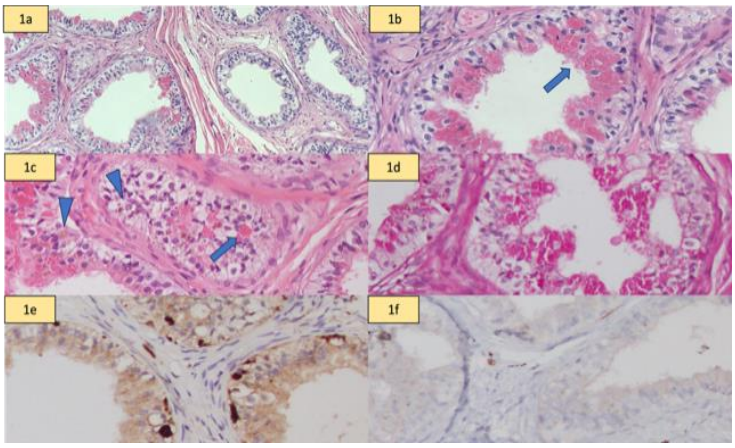


## CLINICAL IMAGE

Benign changes in the epididymis are well known which includes intranuclear eosinophilic inclusions known as Eosinophilic Metaplasia (also called Paneth cell-like metaplasia), lipofuscin pigment and cribriform hyperplasia.[1] Metaplasia can result from an aberrant stimulus or be a typical element of the maturation process.[2] We are describing a case of 32-year-old male patient who presented with a testicular mass, normal AFP and, slightly raised LDH and beta-HCG levels. The histopathological examination of testicular mass revealed the morphological and immunohistochemical findings of a Classic Seminoma not associated with Germ Cell Neoplasia In-Situ (GCNIS). The epididymis was free of tumor. However, part of epididymis was unremarkable, composed of tubules lined by pseudo-stratified ciliated columnar epithelium while few tubules showed abundant cytoplasm, filled with eosinophilic cytoplasmic granules (eosinophilic metaplasia) and simultaneously containing lipofuscin granules which are smaller in size and yellow-brown.(Figure 1) On special stains, these granules were PAS positive and diastase resistant. On immunohistochemistry (IHC), these granules were positive for CD68 and negative for synaptophysin.(Figure 1)

Eosinophilic metaplasia (EM) is a rare type of differentiation in which individual cells exhibit an oxyphilic appearance. It is rarely seen normal healthy glands. It is described as intensely eosinophilic granules with different diameters that are found in the cytoplasm and benign glandular epithelium.[3,4] It has been noted in the breast, prostate, uterine endometrium, and other organs with glandular components and mucous membranes.[3] The eosinophilic cytoplasm in the epididymis resembles those of paneth cells in the intestinal mucosa.[2] Phospholipase A2 is absent from the granular alterations in EM cells of the epididymis, in contrast to true Paneth intestinal cells.[5] By means of electron microscopy, the eosinophilic granules in the benign epithelium resembled vesicles that were either lysosomal or exocrine-like.[3,6]

It is important for the pathologist to be aware of this entity because pathophysiologically, these granules are intracytoplasmic lysosomal accumulation, which serves as a microscopic indicator of ductal obstruction.




1a – Low power H&E image showing normal epidydimis (right) and eosinophilic metaplasia (left).

1b – High power H&E image showing intracytoplasmic granular eosinophilic granules (arrow).

1c – High power H&E image shows admixed eosinophilic granules (arrow) and yellow-brown lipofuscin granules (arrow heads).

1d - PAS-D stain image highlighting the eosinophilic granules which are PAS positive diastase resistant.

1e – CD 68 IHC image showing positivity in eosinophilic granules.

1f – Synaptophysin IHC image showing negative eosinophilic granules of eosinophilic metaplasia.

## REFERENCES

1. Shah VI, Ro JY, Amin MB, Mullick S, Nazeer T, Ayala AG. Histologic variations in the epididymis: Findings in 167 orchiectomy specimens. Am J Surg Pathol . 1998;22(8):990-6.
2. Lugo M, Putong PB: Metaplasia. An overview. Arch Pathol Lab Med. 1984;108:185-9.
3. Weaver MG, Abdul-Karim FW, Srigley J, Bostwick DG, Ro JY, Ayala AG. Paneth cell-like change of the prostate gland. A histological, immunohistochemical, and electron microscopic study. Am J Surg Pathol. 1992;16:62-8.
4. Chang ED, Lee EJ, Lee AW, Kim JS, Kang CS. Primary acinic cell carcinoma of the breast: a case report with an immunohistochemical and ultrastructural studies. J Breast Cancer. 2011;14:160-4.
5. Nevalainen TJ, Shah VI, de Peralta-Venturina M, Amin MB. Absence of group II phospholipase A2, a Paneth cell marker, from the epididymis. APMIS. 2001;109:295-8.
6. Gerakova E. Eosinophilic Metaplasia in the Epididymis in Association With Lipofuscin Pigment: A Case Report. Cureus. 2023;15(2):e34961.