

Venue: PYRAMID 2
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 0900-1000 hr

Plenary Lecture 2: *Academy of Sciences Malaysia-Inno Biologics Eminent Person's Lecture*

PL2. Systematic approach to diagnosing prostate cancer

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The approach of diagnosing adenocarcinoma of the prostate consists of making a mental balance sheet, in one column features favoring a diagnosis of carcinoma and the other features favoring a benign diagnosis. At the end of evaluating a case, if all the criteria line up on one side of the balance sheet, even if there are limited number of suspicious glands, then one can reliably establish a diagnosis of carcinoma. In cases where there are several features favoring a diagnosis of carcinoma yet other favoring a benign diagnosis those cases should be signed out as being suspicious but not diagnostic for cancer with recommendation for repeat biopsy.

Architectural features suggestive of carcinoma

1. Finding of small glands infiltrating in between larger benign glands where otherwise one would expect to see only stroma.
2. The presence of glands infiltrating haphazardly in different directions within the stroma.
3. The presence of back-to-back glands which do not merge in with surrounding more recognizably benign glands.
4. Areas of increased cellularity which are not as densely basophilic as collections of lymphocytes.

Cytologic features suggestive of carcinoma

1. Nuclear enlargement with or without nucleoli when compared to surrounding more recognizably benign glands.
2. Nuclear hyperchromasia.
3. Adjacent high grade PIN, as long as the small atypical glands are to numerous or far enough away from the PIN so as not to represent outpouchings or tangential sections off of the PIN.
4. Presence of mitoses or apoptotic bodies
5. The presence of individual epithelial cells.
6. Amphophilic cytoplasm in glands suspicious for carcinoma in contrast to surrounding benign glands which have pale to clear cytoplasm.
7. Relatively large glands which have a crisp even luminal surface without the ruffling and undulations seen in comparably sized benign glands.

Adjunctive findings seen with carcinoma

1. Presence of intraluminal blue-tinged mucinous secretions seen on H&E sections.
2. The finding of numerous intraluminal prostatic crystalloids.
3. The finding of pink amorphous intraluminal secretions.

Features that are virtually pathognomic for prostate cancer

1. Perineural invasion
2. Mucinous fibroplasia (collagenous micronodules).
3. Glomeruloid structures.

Features that should make one hesitate in diagnosing carcinoma

1. Presence of acute and chronic inflammation where nuclei may be enlarged with reactive nucleoli and often have an atrophic cytoplasm.
2. The presence of a densely cellular lesion suggestive of high-grade prostate carcinoma yet confounded by the presence of acute or chronic inflammation, which may represent non-specific granulomatous prostatitis.
3. The presence of epithelioid cells suggestive of high-grade prostate cancer centered on ruptured and intact glandular spaces, which may represent non-specific granulomatous prostatitis.
4. The presence of either fully or partially atrophic glands despite having an infiltrative appearance.
5. The presence of small glands with minimal atypia merging in with similar glands which appear more recognizably benign, which may represent adenosis.
6. High grade PIN with only a few adjacent atypical glands, where one can not rule out tangential sections or outpouchings off of the PIN.