Intraductal carcinoma of the prostate (IDC-P)
Prostatic adenocarcinoma extending into and proliferating within preexisting prostatic ducts

- Neoplastic cells filling acini/prostatic ducts
- Normal architecture of ducts is maintained
- Preservation of basal cells
Definition (2)

- First documented by Kovi et al in 1985
- First established criteria by Guo&Epstein 2006

<table>
<thead>
<tr>
<th>Table 1 Definition of IDC-P</th>
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<td>Malignant epithelial cells filling large acini and prostatic ducts, with preservation of basal cells and:</td>
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- Solid or dense cribriform pattern
- Loose cribriform or micropapillary pattern with either
  - Marked nuclear atypia: nuclear size 6 × normal or larger
  - Non-focal comedonecrosis
• Radical PE, TUR-P, core biopsies
• Not a precursor lesion
• Associated with aggressive prostate adenocarcinoma
• Overall incidence 2.8%
  – Isolated on core biopsies: 0.06 – 0.26%
  – Concomitant invasive adenocarcinoma: 10.6 – 22%
• Isolated IDC-P → rebiopsy recommended
Morphologic features

- Solid, dense cribriform, loose cribriform, micropapillary, flat
- Marked nuclear atypia and pleomorphism
- Nucleomegaly (≥6 times normal)
- Nonfocal comedonecrosis
- Cuboidal or columnar cells
- Frequent mitoses
- Gleason grade should not be assigned
- Comment: Association with aggressive PrCa
Differential diagnosis

- High-grade prostatic intraepithelial neoplasia (hgPIN)
- Invasive acinar adenocarcinoma (cribriform, Gleason 4; Gleason 5)
- Ductal adenocarcinoma
- Urothelial carcinoma/CIS involving prostatic ducts
High-grade PIN

- Preneoplastic lesion
- Does **not** require definitive therapy
- Does **not** require rebiopsy when isolated in a core biopsy
- Risk of carcinoma in a rebiopsy following isolated hgPIN: 19-25% (BS: 30%)
High-grade PIN

- Cells smaller, less atypical, uniformly atypical
- No solid nests and dense cribriforming
Ductal adenocarcinoma

- Aggressive form of prostate adenocarcinoma (≈Gleason 8)
- Tall, columnar cells
- Papillary fronds with fibrovascular cores
- Slitlike lumina, «endometrioid» pattern
- Basal cell markers usually negative
- If basal cells present: intraductal spread
Ductal adenocarcinoma
Immunohistochemistry IDC-P

- p63 (basal cells)
- Tumor cells: AMACR+, PSA+
- Cytoplasmic PTEN loss (vs. hgPIN)
- ERG+ (vs. hgPIN)


Kristiansen G, Varma M, Seitz G. *[Intraductal carcinoma of the prostate].* Pathologe. 2016 Jan 18