
Intraductal carcinoma of the prostate: precursor or aggressive phenotype of prostate cancer?
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Abstract

BACKGROUND: Although the term "intraductal carcinoma of the prostate" (IDC-P) was introduced almost 40 years ago, there is still the lack of appreciation that this entity represents a clinically aggressive disease that continues to be misreported under the diagnostic category of high grade prostatic intraepithelial neoplasia (HGPIN).

METHODS: Recent data obtained from histological, molecular, and clinical studies were reviewed to demonstrate that IDC-P significantly differs from HGPIN, and has a major impact in terms of diagnosis, prognosis and therapy of prostate cancer (PCa).

RESULTS: HGPIN is the only accepted precursor of PCa. Its diagnosis in prostate biopsies has no prognostic implications, and does not dictate therapeutic decisions. By contrast, IDC-P correlates with a worse pathological and clinical outcome. IDC-P differs from HGPIN by distinct histological and molecular features. Recent clinical studies report that IDC-P is associated with neoadjuvant androgen deprivation therapy (ADT) and, chemotherapy (CT) failure as well as early disease recurrence after external beam radiation. Finally, IDC-P is associated with TMPRSS2-ERG gene fusion, which was reported to be regulated by estrogens and their receptors.

CONCLUSIONS: IDC-P is an aggressive phenotype of prostate cancer and predicts poor response to ADT, CT, and external beam radiation. IDC-P should be separated from HGPIN and should be reported in prostate biopsies and prostatectomy specimens.

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