



## Review – Prostate Cancer

# Atypical Foci Suspicious but not Diagnostic of Malignancy in Prostate Needle Biopsies (Also Referred to as “Atypical Small Acinar Proliferation Suspicious for but not Diagnostic of Malignancy”)

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### Article info

#### Article history:

Accepted July 27, 2006

Published online ahead of print on August 10, 2006

#### Keywords:

Atypical focus suspicious but not diagnostic of malignancy  
Atypical small acinar proliferation  
Prostate cancer  
Prostatic intraepithelial neoplasia

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### Abstract

**Objective:** To review atypical focus suspicious but not diagnostic of malignancy in needle biopsies of the prostate, also referred to as “atypical small acinar proliferation suspicious for but not diagnostic of malignancy.”

**Methods:** A number of descriptive and somewhat confusing terms have been used to refer to a prostate tissue biopsy with small focus of atypical glands. Based on MEDLINE database searches, all aspects, including the synonymous terms, of atypical focus suspicious but not diagnostic of malignancy were examined.

**Results:** An average of 5% of needle biopsy pathology reports show a diagnosis of atypical focus suspicious for malignancy. It may be composed of acini of small size, that is, smaller than normal ducts and acini, but may also include glands with a diameter similar to that of normal ducts and acini. It encompasses a variety of lesions, including benign mimickers of cancer and small foci of carcinoma that, for a variety of reasons, cannot be accurately diagnosed. Maximal diagnostic information should be gained on section stained with haematoxylin and eosin, with immunohistochemical stains used for confirmation. Its presence in a biopsy set is a strong predictor for concurrent or subsequent adenocarcinoma. The values range from 17% to 60%, the mean being 40.7%. The precise labelling of the initial biopsies is mandatory so that rebiopsy of patients with atypical foci can be directed in a more concentrated fashion into the region of the initial biopsy.

**Conclusion:** The presence of atypical focus suspicious but not diagnostic of malignancy in needle biopsies is an important predictor of cancer compared with biopsies from patients who lack this finding.

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## 1. Introduction

Atypical focus suspicious but not diagnostic of malignancy, also referred to as “atypical small acinar proliferation suspicious for but not diagnostic of malignancy” [1,2], is descriptive diagnostic terminology used in the pathology report of a needle biopsy containing a small group of glands suspicious for adenocarcinoma, but with insufficient cytologic or architectural atypia to establish a definitive diagnosis [1–6]. It is a broad diagnostic “umbrella” that encompasses benign lesions mimicking malignant glandular proliferations and under-sampled, small foci of carcinoma that harbour some but not all of the features needed for a definitive diagnosis of malignancy [6]. It is not a diagnostic entity and is not synonymous with high-grade prostatic intraepithelial neoplasia (HGPIN; Fig. 1 A–C).

This review describes the diagnostic implications of atypical focus suspicious for but not diagnostic of malignancy, its immunophenotype, and clinical significance in contemporary needle biopsies.

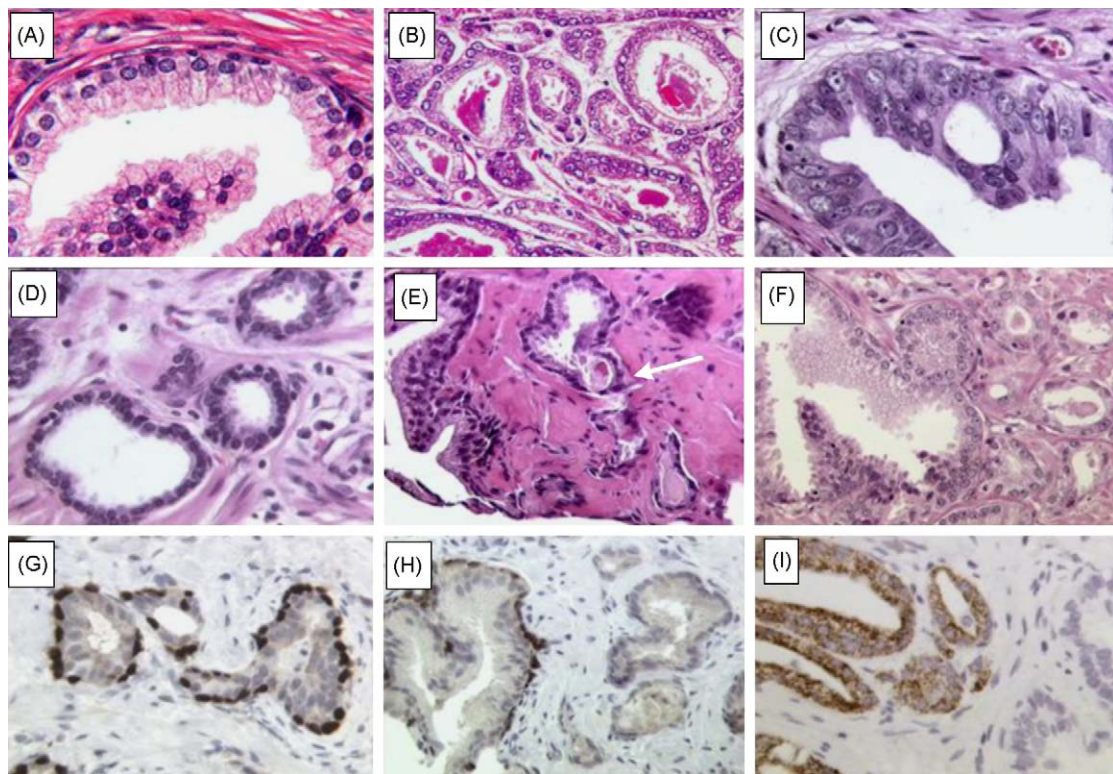
**Table 1 – Diagnostic terms**

- Atypical focus suspicious but not diagnostic of malignancy
- Atypical small acinar proliferation suspicious for malignancy (ASAP)
- Atypical glands suspicious for carcinoma (ATYP)
- Atypical prostatic glandular proliferation
- Atypical glands suspicious for cancer
- Atypical focus suspicious for carcinoma
- Focus suspicious for malignancy
- Focal glandular atypia (FGA)
- Small atypical glands
- Atypical hyperplasia
- Atypia or atypical
- Borderline lesion
- Atypical focus
- Uncertain

## 2. Terminology

A number of descriptive and somewhat confusing terms have been used to refer to a prostate tissue biopsy with small focus of atypical glands (Table 1). There are personal preferences and recommendations [5–7].

The term “atypical small acinar proliferation suspicious for but not diagnostic of malignancy”



**Fig. 1 – Prostate histology. (A) Normal prostate. (B) Prostatic adenocarcinoma. (C) HGPIN. (D) Atypical focus, favour benign. (E) Atypical focus, highly suspicious for malignancy (arrow). (F) HGPIN with adjacent atypical focus. (G) p63 immunostaining of the basal cells in atrophy. (H) Atypical glands lack p63 immunostaining, whereas a normal gland is positive (internal control). (The same case as in panel E). (I) AMACR immunostaining in atypical glands (negative glands serve as an internal control for normal). HGPIN = high-grade prostatic intraepithelial neoplasia; AMACR =  $\alpha$ -methyl acyl-CoA racemase.**

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