

THE ACCURACY OF AgNORS HISTOCHEMISTRY STAINING IN DIAGNOSING BENIGN, PREMALIGNANT AND MALIGNANT PROSTATE LESION

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Background

The nucleolar organizer regions (NORs) are chromosomal loops of DNA involved in ribosomal synthesis. Associated with NORs there are some nucleolar proteins, which are stained with silver methods (AgNOR proteins or AgNORs). AgNORs can be identified as black dots in the nuclei. High AgNOR counts have been found to reflect proliferative status of cell and correlate with poor prognosis in malignant conditions.

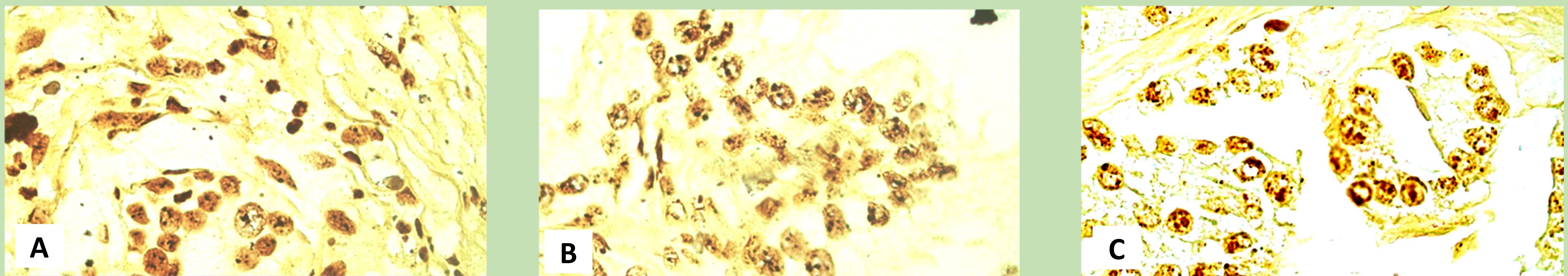


Figure 1. AgNORs staining showing black dots in the nuclei and other parts of nuclei show yellow-brown dot (x100 oil immersion): A. Benign Prostatic Hyperplasia (Benign lesion); B. Prostatic Intraepithelial Lesion (Premalignant lesion); C. Adenocarcinoma (Malignant lesion)

Objective

AgNORs histochemistry staining is a lesser known as a marker of cell proliferation. This study was designed to assess the accuracy of AgNORs histochemistry staining in diagnosing benign, premalignant and malignant prostate lesions.

Methods

We conducted a diagnostic test study on 86 specimen transurethral resections of the prostate (TUR-P) to evaluate the accuracy of AgNORs histochemistry staining in diagnosing benign, premalignant and malignant prostate lesions.

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Results

These results showed a significant difference in AgNORs value between benign and malignant lesions, premalignant and malignant lesions ($p < 0.005$).

	Cut off point	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)
AgNORs	$\geq 12,5$	94,7	82,4	92,3	87,5	90,9

The area under the curve values of 0.962 indicated an excellent ability of a diagnostic test to differentiate premalignant and malignant lesions.

Conclusion

AgNORs histochemistry staining has the ability to confirm benign from malignant prostate lesion, and to confirm premalignant from malignant lesion as well. But it cannot do better in differentiating premalignant lesion from benign one.

References

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