

Akurasi diagnostik lesi indeterminate nodul tiroid berdasarkan ekspresi imunositokimia CK19 = Diagnostic accuracy of indeterminate lesion of thyroid nodule based on CK19 immunocytochemistry expression / Mieke Marindawati,

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Abstrak

**ABSTRAK**

Latar belakang: Biopsi aspirasi jarum halus/Fine needle aspiration biopsy (FNAB) merupakan teknik diagnostik yang efektif untuk membedakan lesi jinak dan ganas yang dapat membantu menilai perlu atau tidaknya dilakukan pembedahan. Namun FNAB mempunyai keterbatasan dalam mendiagnosis terutama pada lesi indeterminate sehingga perlu dilakukan pulasan imunositokimia untuk meningkatkan akurasi. Cytokeratin 19 (CK19) merupakan penanda yang sensitif untuk karsinoma papiler tiroid, namun masih jarang dilakukan pada spesimen FNAB. Penelitian ini bertujuan untuk mengetahui akurasi diagnostik imunositokimia CK19 pada spesimen FNAB lesi indeterminate nodul tiroid.

Metode: Penelitian ini dilakukan secara retrospektif dan merupakan penelitian observasional analitik menggunakan desain potong lintang. Populasi penelitian adalah kasus FNAB nodul tiroid yang berpasangan dengan kasus histopatologi dari arsip Departemen Patologi Anatomi FKUI/RSCM tahun 2014-2015. Pemilihan sampel dilakukan secara consecutive sampling. Sampel berjumlah 42 kasus yang terdiri dari 11 kasus (26%) lesi jinak, 12 kasus (29%) atypical of undetermined significance (AUS), 10 kasus (24%) suspicious, dan 9 kasus (21%) ganas. Dilakukan pulasan CK19 dan dinilai ekspresinya berdasarkan titik potong

Hasil: Pada 42 sampel yang diteliti terdapat 23 kasus sitologik dengan ekspresi CK19 positif kuat, yang terdiri atas 21 kasus histopatologik ganas dan 2 kasus histopatologik jinak. Sedangkan 19 kasus sitologik yang menunjukkan ekspresi CK19 positif lemah/negatif terdiri atas 17 kasus histopatologik jinak dan 2 kasus histopatologik ganas. Berdasarkan hasil ini akurasi diagnostik sediaan FNAB lesi indeterminate adalah 86%. Secara umum juga menunjukkan bahwa pulasan imunositokimia CK19 pada spesimen sitologik FNAB mempunyai nilai sensitivitas 91%, spesifisitas 89%, nilai prediksi positif 91%, nilai prediksi negatif 89% dan akurasi diagnostik 90%.

Kesimpulan: Pulasan CK19 dapat digunakan sebagai penanda untuk membedakan karsinoma papiler tiroid dan nodul jinak tiroid pada spesimen FNAB lesi indeterminate dengan akurasi diagnostik 86%.

**ABSTRACT**

Background: Fine-needle aspiration biopsy (FNAB) is a diagnostic technique that is effective in distinguish between benign and malignant lesions that can help to assess whether any surgery is required or not. However FNAB has limitations in diagnosis, especially in indeterminate lesions. Therefore accuracy of this technique can be improved by immunocytochemistry staining. Cytokeratin 19 (CK19) is a sensitive marker

for papillary carcinoma of the thyroid, but still rarely performed in FNAB specimens. The aim of the present study was to establish the diagnostic accuracy of CK19 in thyroid FNAB indeterminate lesion

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Methods: This study is an analytic observational research using cross sectional design. The population of this study was FNAB cases of thyroid nodules which paired with histopathological cases. Data was retrieved from the archives of Anatomic Pathology Department of the Faculty of medicine/Cipto Mangunkusumo Hospital years 2014-2015. Sample selection performed by consecutive sampling. Total 42 cases in this study consisting of 11 benign lesions (26%), 12 Atypical of undetermined significance (AUS) (29%), 10 suspicious (24%), and 9 malignant (21%). CK19 staining was performed and the positivity expression was determined based on cut off.

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Results: Totally 42 samples studied contained 23 cytologic case with strong positive expression of CK19, consisting of 21 malignant histopathologic cases and 2 benign histopathologic cases. While 19 cytologic cases that showed weakly positive/ negative CK19 expression was consisted of 17 benign histopathologic cases and 2 malignant histopathologic cases. Based on these results the diagnostic accuracy of FNAB preparations indeterminate lesions was 86%. In general showed that CK19 staining immunocytochemistry on cytologic specimens FNAB have a sensitivity of 91%, specificity of 89%, positive predictive value of 91% , negative predictive value of 89% and diagnostic accuracy of 90%.

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Conclusion: CK19 staining can be used as a marker to distinguish between papillary carcinoma thyroid and benign thyroid nodules in FNAB indeterminate lesions with a diagnostic accuracy of 86%.