

# Akurasi kadar Alfa Fetoprotein dan Human Chorionic Gonadotropin serum dalam Penegakkan Diagnosis Tumor Sel Germinal Nonseminoma Mediastinum = Accuracy of Alpha-Fetoprotein and Human Chorionic Gonadotropin Serum in Establishing the Diagnosis of Nonseminomatous Germ Cell Tumors in the Mediastinum

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## Abstrak

Latar Belakang: Tumor sel germinal mediastinum merupakan kelompok neoplasma gonad yang sensitif terhadap kemoterapi, namun agresif dan memiliki prognosis buruk. Penegakkan diagnosis dini yang tepat adalah hal yang penting dan salah satunya adalah dengan penilaian penanda tumor alpha fetoprotein (AFP) dan beta human chorionic gonadotropin ( $\beta$ HCG).

Metode: penelitian ini dilakukan dengan desain uji diagnostik dengan pendekatan potong lintang terhadap pasien tumor sel germinal nonseminoma mediastinum di RSUP Persahabatan sejak Januari 2015 hingga Desember 2022 dengan mengukur kadar Alfa Fetoprotein dan Human Chorionic Gonadotropin serum dan dilakukan pemeriksaan histopatologi. Analisis data dilakukan untuk menguji sensitivitas, spesifisitas, nilai duga positif, nilai duga negatif, akurasi diagnostik, dan analisis kurva receiver operating characteristic (ROC).

Hasil: Dari total 362 subjek yang memenuhi kriteria inklusi, dari kedua penanda tumor AFP dan  $\beta$ HCG didapat sensitivitas 90,77% (IK 95% 80,98% - 96,54%), spesifisitas 97,98% (IK 95% 95,65% - 99,26%), nilai duga positif 90,77% (IK 95% 81,61% - 95,61%), nilai duga negatif 97,98% (IK 95% 95,77% - 99,05%), rasio kekerapan positif 45,4 (IK 95% 20,27 - 99,58), rasio kekerapan negatif 0,09 (IK 95% 0,04 - 0,2), serta nilai akurasi diagnostik sebesar 96,69% (IK 95% 94,28% - 98,28%).

Kesimpulan: Pemeriksaan kadar Alfa fetoprotein dan  $\beta$ human chorionic gonadotropin memiliki akurasi 96,69%, sensitivitas 90,77% spesifisitas 97,98%, nilai duga positif 90,77%, nilai duga negatif = 97,98% dalam penegakkan diagnosis tumor sel germinal nonseminoma mediastinum

.....Background: Mediastinal germ cell tumors are a group of gonadal neoplasms that are sensitive to chemotherapy, but very aggressive and have poor prognosis. Early and correct diagnosis is important, one of them is by measuring tumor markers in serum: alpha-fetoprotein (AFP) and beta human chorionic gonadotropin (HCG).

Method: This study was conducted with a diagnostic test with a cross sectional approach design on patients with mediastinal germ cell tumors at RSUP Persahabatan from January 2015 to December 2022, and also assessment of tumor markers alpha-fetoprotein (AFP) and beta human chorionic gonadotropin (HCG) serum and histopathology examination. Data analysis was carried out to find the sensitivity, specificity, positive predictive value, negative predictive value, diagnostic accuracy, and receiver operating characteristic (ROC)

Results: Of a total of 362 eligible subjects, the sensitivity was 90.77% (95% CI 80.98% - 96.54%), the specificity was 97.98% (95% CI 95.65% - 99.26%), the positive predictive value was 90.77% (95% CI 81.61% - 95.61%), the negative predictive value was 97.98% (95% CI

95.77% - 99.05%), the positive likelihood ratio was 45.4 (95% CI 20.27 - 99.58), the negative likelihood ratio was 0.09 (95% CI 0.04 - 0.2), and the diagnostic accuracy was 96.69% (95% CI 94.28% - 98.28%).

Conclusion: the sensitivity was 90.77%, the specificity was 97.98%, the positive predictive value was 90.77%, the negative predictive value was 97.98%, and the diagnostic accuracy was 96.69%.