

miRNA-145 in Non Invasif and Invasif Transitional Cell Carcinoma of bladder Cancer at Dr Sardjito Hospital

ABSTRACT

Background:

Transitional Cell Carcinoma of the bladder is an urology malignancies often in men and women. Gold standard diagnosis of Transitional Cell Carcinoma of the bladder is by cystoscopy and biopsy of tumor tissue. Other examinations such as bladder tumor antigen (BTA), nuclear matrix protein 22 (NMP22), urine fibrin fibrinogen degradation product (FDP) have been widely performed but have not been able to replace urine cytology and cystoscopy examination. miRNA-145 in bladder cancer has been widely studied, is a potential candidate for a tumor marker in bladder cancer.

Objective : To determine wheather miRNA-145 expression on Transitional Cell Carcinoma Bladder can be used as a marker of tumor.

Methods : In this study 30 tissues samples of Transitional Cell Carcinoma of Bladder patients are divided into two groups, muscle invasive and non-muscle invasive according to histopathological results. Each group consists of 15 samples. All of the samples were extracted from paraffin blocks. miRNA-145 expression was examined by quantitative Real Time-Polymerase Chain Reaction. The results between the two groups were analyzed using Independent t test.

Result : Expression of miRNA-145 in non-invasive transitional cell carcinoma of bladder with an average value of 11.57 whereas expression miRNA-145 in invasive Transitional cell carcinoma of bladder had an average value of 19.32. Data with normal and homogeneous Distribution then tested parametric analysis using independent t-test.

There was a significant difference in miRNA-145 expression in non-invasive transitional cell carcinoma of bladder compared with miRNA-145 expression in invasive transitional cell carcinoma with $P = 0.002 (<0.05)$.

Conclusions :

There was a significant difference in miRNA-145 expression in non-invasive transitional cell carcinoma of bladder compared with miRNA-145 expression in invasive transitional cell carcinoma with exspression in invasive transitional cell carcinoma is superior.

Keyword : miRNA-145, Transitional Cell Carcinoma

miRNA-145 pada Kanker Transitional Kandung Kencing Non invasif dan Invasif di RSUP Dr Sardjito

ABSTRAK

Latar Belakang

Kanker Transitional Kandung Kencing adalah keganasan urologi sering pada pria dan wanita. *Gold Standard* penegakkan Kanker Transitional Kandung Kencing adalah dengan melakukan sistoskopi dan biopsi jaringan tumor. Pemeriksaan lain seperti *bladder tumor antigen* (BTA), *nuclear matrix protein 22* (NMP22), *urine fibrin fibrinogen degradation product* (FDP) telah banyak dilakukan namun belum dapat menggantikan pemeriksaan sitologi urin dan sistoskopi. miRNA-145 pada kanker kandung kencing telah banyak diteliti, merupakan calon potensial untuk menjadi tumor marker pada kanker kandung kencing.

Tujuan

Tujuan penelitian ini adalah untuk mengetahui apakah ekspresi miRNA-145 pada Kanker Transitional Kandung Kencing dapat dijadikan sebagai penanda tumor.

Metode

Penelitian ini menggunakan total 30 sampel. Sampel terdiri 15 jaringan kanker transitional kandung kencing non invasif otot dan 15 sampel jaringan tumor buli invasif otot. Jaringan kanker transitional kandung kencing didapatkan pada laboratorium Patologi Anatomi di RSUP Dr. Sardjito pada periode januari 2016 – desember 2016

Jaringan tumor kemudian dilakukan ekstraksi miRNA-145 dengan pemeriksaan *Real-Time* PCR dengan Total miRNA Mini Kit FavorPrep™. Kemudian hasil dilakukan dengan analisa *independent T-test*.

Hasil

Ekspresi miRNA-145 pada kanker transitional kandung kencing *non invasive* dengan nilai rata-rata 11,57 sedangkan ekspresi miRNA-145 pada kanker transitional kandung kencing *invasive* memiliki nilai rata-rata 19,32. Data dengan Distribusi normal dan homogen kemudian dilakukan uji analisis parametrik dengan menggunakan *independen t-test*.

Didapatkan perbedaan bermakna pada ekspresi miRNA-145 pada kanker transitional kandung kencing non invasive dibanding dengan ekspresi miRNA-145 pada kanker transitional kandung kencing invasive dengan nilai $P = 0,002 (< 0,05)$.

Kesimpulan

Terdapat perbedaan yang bermakna antara ekspresi miRNA-145 pada kanker transitional kandung kencing *non invasive* dibandingkan kanker transitional kandung kencing *Invasive* dengan ekspresi lebih dominan pada kanker transitional kandung kencing *Invasive*.

Kata kunci : miRNA-145, Kanker Kandung Kencing Transitional