Opinion Article

iMedPub Journals
www.imedpub.com

Medical Case Reports
ISSN 2471-8041

2023
Vol.9 No.5:303

To Study Papillary Thyroid Carcinoma without a Cell DNA Methylation Biomarker

Maria A. Gubbiotti*

Department of Thyroid and Breast Surgery, Zhejiang Provincial People's Hospital Bijie Hospital, Guizhou, China

Corresponding author: Maria A. Gubbiotti, Department of Thyroid and Breast Surgery, Zhejiang Provincial People's Hospital Bijie Hospital, Guizhou, China, E-mail: Gubbiot_m@pphb.cn

Received date: May 16, 2023, Manuscript No. IPMCRS-23-16851; **Editor assigned date:** May 18, 2023, Pre QC No. IPMCRS-23-16851 (PQ); **Reviewed date:** May 29, 2023, QC No. IPMCRS-23-16851; **Revised date:** June 06, 2023, Manuscript No. IPMCRS-23-168501 (R); **Published date:** June 12, 2023, DOI: 10.36648/2471-8041.9.5.303.

Citation: Gubbiotti MA (2023) To Study Papillary Thyroid Carcinoma without a Cell DNA Methylation Biomarker. Med Case Rep Vol.9 No. 5:303.

Introduction

The incidence of thyroid cancer has dramatically increased over the past few decades. The incidence of cancer in Indonesia currently ranks 12th and 7th, respectively, in the world. Papillary Thyroid Carcinoma (PTC) is a follicular cell-determined growth credited to 80-85% of thyroid disease. Tall and columnar cells, oncocytic, solid/trabecular, and variants that frequently Exhibit Extrathyroidal Extension (ETE), Lymph Node Metastasis (LNM), and distant organ metastasis are striking variants because of their distinctive histopathological characteristics.

The disease's behavior and outlook are linked to the presence of a gene mutation. B-Quickly speeding up fibrosarcoma (BRAFV600E) and Rodent Sarcoma (RAS) transformations are all around distributed driver changes in the advancement of PTC. The classic and tall-cell variants typically carry the BRAFV600E mutation, which is frequently linked to increased aggression. Patients with the BRAF mutation have higher mortality rates and a twice as high risk of illness relapse as those without the mutation. The human RAS quality is separated into Kirsten Rodent Sarcoma (KRAS), Neuroblastoma (NRAS), and Harvey (HRAS), rather than BRAFV600E transformation, are more pervasive in the follicular variation of PTC. Better anticipation and more sluggish sickness conduct have been related with RAS change. Western and Asian nations had different rates of BRAFV600E and RAS mutations, which were thought to be due to differences in geography, race, and other risk factors. Americans and Europeans conveyed BRAFV600E change in around 35-60% of the patients. In the meantime, though the numbers varied, BRAFV600E mutations were quite common in Asian nations. On the other hand, countries in Asia, Europe, and the United States all had relatively similar rates of RAS-positive PTC. Until now, learns about PTC and its mutational status are as yet restricted in Indonesia. However, the majority of studies used immunohistochemistry or cytology specimens with few samples. Given the deficiency of examination portraying the predominance of BRAF and RAS changes in PTC in Indonesia, this study expected to survey the commonness of BRAFV600E, BRAFK601E, and RAS (NRAS, HRAS, and KRAS) transformations and their relationship with the clinicopathological profiles of PTC that were connected with the growth conduct and forecast in Indonesian populace.

Lymph Vascular Invasion

Retrospective data were gathered from all patients who had a complete thyroidectomy and were diagnosed with PTC at the Cipto Mangunkusumo Hospital-Faculty of Medicine Universitas Indonesia between 2019 and August 2021. After eliminating patients with inadequate samples, inaccessible medical records, inappropriate Hematoxylin and Eosin (H and E) stained slides, and Formalin-Fixed Paraffin-Embedded (FFPE) tumor specimens, 172 patients were included in the study. Clinical records were utilized to obtain clinical data, like age, orientation, and clinical stage. The pathological data, which included the tumor size, histological variant, multifocality, nuclear score, LNM, ETE, and Lymphovascular Invasion (LVI), were blindly examined by two certified pathologists from our institution. All follicular variants were invasive, and we excluded PTC with high-grade features (high mitosis index and necrosis). Interobserver understanding was broke down by utilizing Kappa investigation with almost wonderful arrangement results. In the integrated Laboratory of FMUI-CHM, we extracted genomic material from 5-m-thick sections of FFPE tumor tissues by employing the QIAamp DNA FFPE Tissue Kit (Qiagen, Valencia, CA). We followed the manufacturer's instructions to melt the paraffin with xylene, lyse the tissue with Proteinase K, heat, bind DNA, and wash the tissue. Pure DNA products were obtained following 8000 rpm centrifugation with a QIAamp MinElute Column (Qiagen, Valencia, CA). The quantity of the final DNA product was measured using Nano Drop TM 2000/2000c spectrophotometers (Thermo Fisher Scientific, Waltham, MA). The measurement of absorbance was used to determine quality. An A260/A280 proportion of 1.8 to 2.0 demonstrates an excellent DNA test. Statistical Program for Social Science (SPSS) version 20 was used to process all of the research data. BRAF and RAS mutational status, patient orientation, clinical stage, histological variety, and other absolute information were given as frequencies and rates. Age and growth size were introduced as middle qualities in view of the appropriation irregularity of the mathematical information. The Chi-square test or Fisher's exact test were used in the bivariate analysis to examine the relationship between categorical data variables. The analysis was deemed significant if the p-value for each test was less than 0.05.

South Korean populations

The majority of the BRAF gene's activating mutations are missense mutations in codon 600 (V600E). Despite previous publications on the subject, their connection to the disease's behavior remains contentious. BRAFV600E had been recognized as the most common genetic mutation for thyroid carcinoma for decades. However, its prevalence in PTC varies widely across the globe, from 27.3% to 73.4%. A huge meta-examination study from the Asian populace likewise showed a comparative pervasiveness rate for BRAFV600E transformation, going from 23% to 83% in generally PTC cases. Different example estimates, numerous tissue sources, different arrangement understanding procedures, and other geographic contemplations including hereditary and natural status might add to the huge disparities among studies. 37.8 percent of PTC patients had the BRAFV600E mutation found in this study. This outcome is like the past finding from Southeast Asia by Navarro-Locsin et al, which detailed the BRAFV600E transformation rate was 38.5%. Like our outcome, there were concentrates on in Indonesia directed by Heriyanto et al and Perdana Stomach muscle et al18 that utilized atomic techniques and detailed BRAFV600E change rates were 40.3% and 31%, separately. In a Singaporean single-center cohort study, 56% of PTC patients were found to have a BRAF mutation. The Japanese (82.1%), Vietnamese (83%), and South Korean populations all had an even higher prevalence of the BRAF mutation. Southeast and East Asia had the highest prevalence of the BRAFV600E mutation out of all the Asian continents. We guess the distinction among Indonesia and other Southeast Asian nation is a result of geographic circumstances including natural elements. Consuming a lot of iodine has been linked to a higher risk of the BRAF mutation in PTC, though this link is still up for debate. There is a need to clarify that a lower percentage of BRAFV600E mutations in Indonesia may be attributable to relatively low iodine intake in some provinces.