VEGF single nucleotide polymorphisms (SNPs) and correlation to sunitinib-induced hypertension (HTN) in metastatic renal cell carcinoma (mRCC) patients (pts).

Sub-category:  
Kidney Cancer

Category:  
Genitourinary Cancer

Meeting:  
2009 ASCO Annual Meeting

Session Type and Session Title:  
Clinical Science Symposium, Targeted Therapy in Metastatic Renal Cell Carcinoma: The Biology of Response, Resistance, and Clinical Therapeutics

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Abstract Disclosures

Faculty and Discussant Disclosures

Annual Meeting Planning Committee Disclosures

2009 Annual Meeting Proceedings Part I Errata

Abstract:

Background: VEGF SNPs (-634 C/C and -1498 T/T) have been associated with protection from grade III/IV HTN in breast cancer pts receiving bevacizumab plus paclitaxel (J Clin Oncol. 26:4672-4678). The aim of this study was to retrospectively evaluate the association among VEGF SNPs and the development of HTN in mRCC pts receiving sunitinib. Methods: mRCC patients receiving sunitinib (50mg 4/2) with available blood pressure (BP) data and germline DNA were retrospectively identified. All BP measurements were recorded in clinic approximately every 4 weeks. Genomic DNA was isolated from peripheral blood lymphocytes. VEGF SNP's -634 C/G (5'UTR polymorphism, NCBI reference sequence #2010963), and -1498 C/T (promoter polymorphism NCBI reference sequence #833061) were amplified using primers designed to flanking sequences for the respective SNPs. Genotypes were assigned following sequence analysis. Data were analyzed using parametric and non-parametric methods. Results: Sixty-four patients were identified of which 63 had available SNP data; 78% were male; median age was 60 (range 35-80); 67% ECOG performance status of 0; 89% prior nephrectomy and 63% previously treated with cytokines (48%) and/or a TKI (24%). Median systolic and diastolic BPs at baseline were 139 mmHg (range, 93-190) and 80 mmHg (range, 47-103), respectively; 57% of patients were being treated with anti-HTN meds at baseline. The distribution of pts for the VEGF-634 genotype was C/C (10%), C/G (33%) and G/G (57%). VEGF-634 C/C < C/G < G/G genotypes were associated with increasing frequency and duration of HTN (diastolic > 90 mmHg and/or systolic > 150 mmHg) during treatment with sunitinib (p = 0.03 and p = 0.007, respectively) and remained significant adjusting for baseline BP and use of anti-HTN meds (p = 0.05 and 0.02, respectively). Similar correlations were not found for VEGF-1498 genotypes. There was no association between
VEGF SNPs and tumor volume reduction or PFS. **Conclusions:** VEGF SNP-634 G/G genotype is correlated with HTN during treatment with sunitinib in mRCC pts.

**Associated Presentation(s):**

1. VEGF single nucleotide polymorphisms (SNPs) and correlation to sunitinib-induced hypertension (HTN) in metastatic renal cell carcinoma (mRCC) patients (pts).
   
   **Meeting:** 2009 ASCO Annual Meeting  
   **Presenter:** Jenny J Kim  
   **Session:** Targeted Therapy in Metastatic Renal Cell Carcinoma: The Biology of Response, Resistance, and Clinical Therapeutics (Clinical Science Symposium)

**Other Abstracts in this Sub-Category:**

1. Use of CA9 gene single nucleotide polymorphisms to predict prognosis and treatment response of metastatic renal cell carcinoma.
   
   **Meeting:** 2009 ASCO Annual Meeting  
   **Abstract No:** 5003  
   **First Author:** M. de Martino  
   **Category:** Genitourinary Cancer - Kidney Cancer

2. Phase II presurgical study of bevacizumab plus erlotinib in untreated patients with metastatic renal cell carcinoma.
   
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Presentations by J. J. Kim:

1. Role of VEGF and VEGFR2 single nucleotide polymorphisms (SNPs) in predicting treatment-induced hypertension (HTN) and clinical outcome (CO) in metastatic clear cell RCC (mccRCC) patients (pts) treated with sunitinib.
   
   Meeting: 2010 ASCO Annual Meeting  
   Presenter: Jenny J. Kim  
   Session: Genitourinary Cancer (General Poster Session)

2. VEGF single nucleotide polymorphisms (SNPs) and correlation to baseline and sunitinib-induced hypertension (HTN) in metastatic renal cell carcinoma (mRCC) patients (pts)
   
   Meeting: 2010 Genitourinary Cancers Symposium  
   Presenter: Jenny J. Kim, MD  
   Session: Reception and General Poster Session D: Testis, Bladder, Renal and Other GU Neoplasms (General Poster Session)

3. VEGF single nucleotide polymorphisms (SNPs) and correlation to sunitinib-induced hypertension (HTN) in metastatic renal cell carcinoma (mRCC) patients (pts).
   
   Meeting: 2009 ASCO Annual Meeting  
   Presenter: Jenny J Kim, MD, MS  
   Session: Targeted Therapy in Metastatic Renal Cell Carcinoma: The Biology of Response, Resistance, and Clinical Therapeutics (Clinical Science Symposium)

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