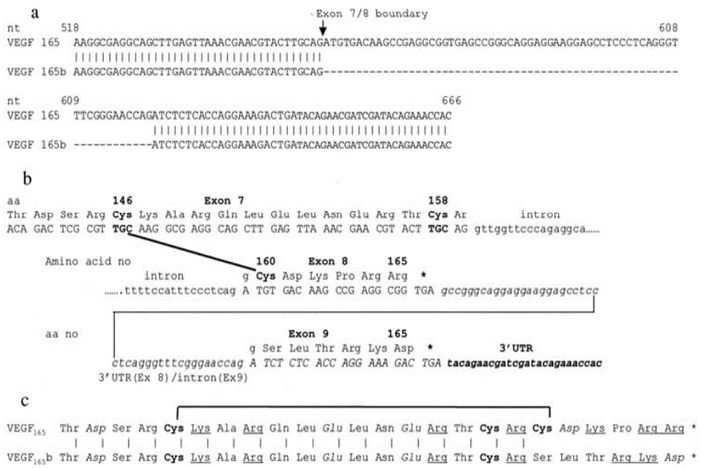
Evaluation of the prevalence and prognostic significance of $VEGF_{165b}$ in breast cancer patients compared to healthy women

Background

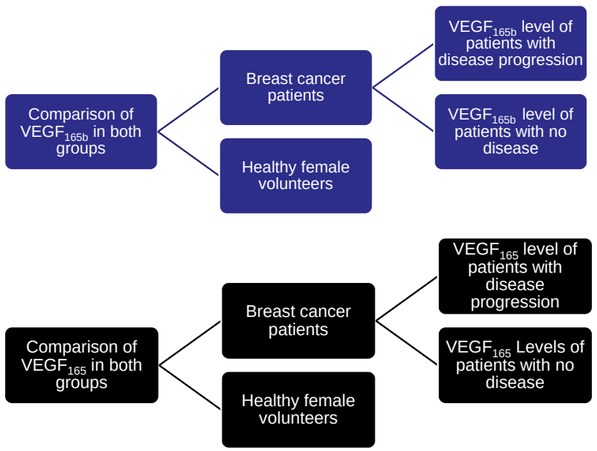
$VEGF_{165b}$ mRNA was first isolated in 2002 by RT-PCR out of renal cortex tissue which resulted in a shorter PCR product than predicted from previously identified isoforms. This isoform was subsequently identified and cloned in both primary epithelial cells as well as in stable immortalized podocyte cell lines. Because of the nature of this splice variant and its distal splicing of the 3´-untranslated region of the VEGF mRNA, most previously investigated expression studies will not have distinguished $VEGF_{165b}$ form other isoforms. This may $_{explain}$ some of the data that does not show clear relationships between VEGF expression and angiogenesis. Moreover recent studies showing that VEGF-neutralizing antibodies could be more effective by targeting the proangiogenic splice variants rather than a pan-VEGF strategy. There has been only limited in vitro data regarding the role of $VEGF_{165b}$ but no in vivo data regarding the level of expression of VEGF165b in breast cancer or its possible correlation with disease progression.



Bates D O et al. Cancer Res 2002;62:4123-4131

Trial design

This is a monocentric observational cohort study with the primary objective to estimate the prevalence of VEGF165b in breast cancer patients compared to healthy controls and correlate it with existing clinical data. There are two groups of patients included in this study; patients with newly diagnosed breast cancer and healthy volunteers.



Eligibility criteria

The eligibility criteria for the breast cancer group are newly diagnosed ductal, lobular or inflammatory breast cancer at stage I-IV, no prior treatment, above 18 years of age. The eligibility criteria for the healthy volunteers are healthy women with no history of cancer with no current medical therapies and above 18 years of age.
Specific aims: The primary objective of this trial is to estimate the prevalence of VEGF165b in breast cancer patients and healthy volunteers. The secondary objective is the correlation of VEGF165b with clinical characteristics over time.

Materials and Methods

The samples will be analysed using a specific ELISA as well as immunohistochemistry. The accuracy and sensitivity of the available ELISA are of utmost importance in this setting. Bates et al have done previous work evaluating the ELISA used in this study and have shown that it underestimates the value for $VEGF_{165b}$ but that it is specific for $VEGF_{165b}$. Since we will rather look at individual variation over the course of time, it will not have an effect regarding the expected results but it prohibits a direct comparison of the measured levels of $VEGF_{165}$ to $VEGF_{165b}$ if they are not corrected for this lack in sensitivity.

Statistical analysis

The statistical analysis being used in this study will be primarily descriptive with the calculation of mean and median and confidence intervals. The difference in distribution of the values will be examined in a one way variant analysis. We will also correlate results from different biospecimens and correlate the prevalence of variant presence or absence

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