Introduction
Angiogenesis play a role not only in solid tumors, but also in hematopoietic malignancies. Previous studies of hematopoietic malignancies have demonstrated a close relationship between the bone marrow and angiogenesis. VEGF is also thought to play some role in etiopathogenesis of leukemia and multiple myeloma, as dysregulation of VEGF expression and signaling pathways are seen in those hematologic malignancies.

Objectives
To evaluate serum vascular endothelial growth factor (VEGF) levels in children with acute lymphoblastic leukemia (ALL) before and after the induction phase of chemotherapy and assess the possibility of introducing VEGF in the diagnosis and monitoring of ALL.

Materials and Methods
This prospective study was performed on twenty newly diagnosed ALL children 1-16 years old. They were selected from the Pediatric Oncology Department, NCI, Cairo University between September 2012 and May 2013.

A written informed consent was obtained from parents of all patients prior to enrollment in the study, and the Institutional Board (IRB) of NCI approved the protocol which was in accordance with the 2007 Declaration of Helsinki.

All subjects have undergone clinical examination, full history taking, complete laboratory examination and measuring serum concentration of VEGF at diagnosis and at the end of chemotherapy induction.

Results
Mean±SE of VEGF was significantly lower in untreated patients than in both controls and treated patients. Serum VEGF levels were significantly and inversely correlated with total WBC count at diagnosis. There was no relation between VEGF and age, sex and immunophenotyping.

Table: Serum VEGF and WBCs in all cases and controls:

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<th>Control Cases before treatment</th>
<th>Cases after treatment</th>
<th>P- value</th>
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<tr>
<td>VEGF (pg/ml)</td>
<td>5.572±17.46±</td>
<td>66.42±17.46±</td>
<td>72.96±</td>
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<tr>
<td>WBC (No/mm³)</td>
<td>49900±1694±</td>
<td>7210±12712±</td>
<td>4705±</td>
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Conclusions
The increase in value of s-VEGF in patients with remission in comparison with the values at the time of diagnosis and controls suggests that normal level of s-VEGF may indicate the remission of ALL patients which may be correlated to stratification risk and with treatment response.

It also suggests that the origin of VEGF may be normal hematopoietic cells or endothelial cells. These all findings potentiate the possibility of introducing VEGF in the diagnosis and monitoring of ALL.