

# **Cancer & new blood vessels formation (Angiogenesis):**

## **A new target for cancer treatment**

### **Patient Education Programme**

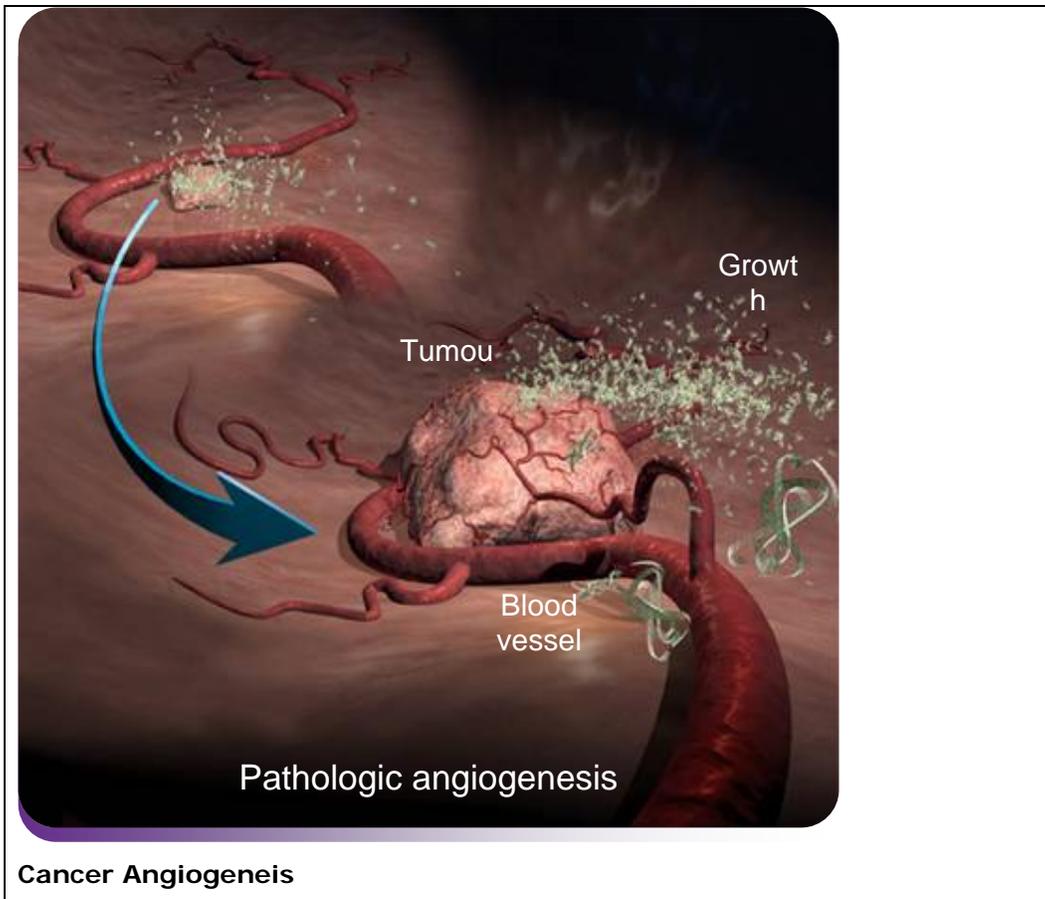
**Introduction:** Angiogenesis is the process of new blood vessel formation from existing blood vessels through budding and growth of tubes formed initially of endothelial cells (lining of blood vessels). This process is controlled by a complex interaction of factors that either stimulate or inhibit angiogenesis.

One of the most important of these factors is vascular endothelial growth factor (VEGF), which stimulates angiogenesis. VEGF has multiple roles in controlling the proliferation and survival of endothelial cells. Importantly, VEGF is a critical factor in angiogenesis during tumour growth. Tumour vascularisation is an essential part of tumour progression and so a target for therapy.

**What is angiogenesis?** : Nearly every cell in the human body is next to a capillary blood vessel (smallest blood vessel), or at least near enough for adequate diffusion. During tissue growth, this close relationship is maintained by parallel growth of the blood vessel network.

#### **Angiogenesis is essential in Cancer**

- Angiogenesis is critical to cancer development and progression, which makes it a target for anticancer therapy
- Angiogenesis can be activated at different stages of tumour development
- Angiogenesis has been correlated with cancer progression in many cancer types



### **VEGF: the main regulator of angiogenesis**

VEGF plays a central role throughout cancer development

- VEGF has been identified as the main regulator of cancer angiogenesis
- VEGF has been shown to facilitate survival of existing blood vessels and stimulate new blood vessel growth
- VEGF is present throughout the cancer tumour lifecycle

### **Angiogenesis control and precise VEGF inhibition**

- VEGF inhibition helps maintain control of tumour-induced angiogenesis
- Maintaining angiogenesis control helps control cancer growth and metastases (spread)

**For more information on Angiogenesis, VEGF and anti-VEGF drugs available  
Please contact your treating Cancer Specialist.**

**You may also have more information on:**

<http://www.youtube.com/watch?v=3xmIYr1AGx8>