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|  | **program Information** |
| **NO.** |  |
| **Program Type** | Degree Based …………….....Non degree-Based ……..…. | □\*□ |
| **Level of Study** | Undergraduate ………..……Master …………………..……...PhD ………………………..…….Post Doc …………………..…..Specialty ………………..…….Subspecialty …………………Fellowship ……………..……..Short term Course ………… | □\*□\*□\*□□□□□ |
| **School** | School of Medicine |
| **Department** | Department of Physiology |
| **Major/ Name of Program** | Angiogenesis in pathological condition: experimental studies |
| **Keywords(3 Words)** | Angiogenesis, growth factors, rats |
| **Language Requirement** | Persian, English |
| **Admission Requirement** | - |
| **Contact Information** | Phone : 05138009227 |
| Fax : |
| Mobile : 09155618595 |
| Email : khazaeim@mums.ac.ir |
| Address : Iran, Mashhad, Azadi Square, Mashhad University of Medical Sciences, Faculty of Medicine, Department of Physiology |
| Contact Person Name : Majid Khazaei |
| **Description (500 words)** | Angiogenesis , the formation of new blood vessels from pre existing ones, contributes to physiological and pathophysiological conditions. Pathophysiological angiogenesis is associated with several long-term complications of disease such as diabetic retinopathy and nephropathy, endometriosis, hypertension and tumor development while physiological angiogenesis is involved in wound healing, ovulation and menstrual cycles. The process of angiogenesis depends on the balance of many stimulating or inhibiting factors. The key factor that regulates proliferation and migration of endothelial cells is the Vascular Endothelial Growth Factor (VEGF). Angiogenic Therapy includes inhibition of abnormal angiogenesis in some conditions such as tumors or diabetes and stimulation of angiogenesis in conditions of Ischemia, including Ischemic Heart Disease or Peripheral Vascular Disease. |
| **Complete Description** | Angiogenic and anti-angiogenic growth factors: The involvement of angiogenic (growth factors such as bFGF, VEGF, TGF) and anti-angiogenesis (such as thrombospondin-1, endostatinUsing animal models (tumor angiogenesis, hindlimb ischemia, etc.)Evaluation of angiogenesis by immunohistochemistry, enzyme histochemistry, changes of angiogenic factors in serum/plasma and tissues |
| **Program Detail** | Experimental angiogenesis models in rat or mice: hindlimb ischemia, tumor angiogenesis, angiogenesis after cardiac ischemiaDifferent model of diseases: Diabetes, diet-induced obesity, hypertensionDifferent methods for evaluation of angiogenes Finding the mechanisms of alteration of angiogenesis in these models |