INDIAN STEMCELL STUDY GROUP ASSOCIATION (ISCSG)
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REGENERATIVE APPROACH TO CRITICAL LIMB ISCHEMIA

CLI is the leading cause of amputation of lower limb.The increasing incidence of Diabetes and smoking result in this vascular pathology causing long segment and multifocal disease so that even endovascular procedures like stenting, byepass grafting, embolectomy or balloon plasty do not provide a lasting solution.Moreover after exhausting any of these options when the pathology recurs we are helpless.In such 'No Option' cases our new tool is regenerative approach.

Stem cell transitional research encompasses using growth factors,PRP,stemcells and scaffolds wherever possible.Based on Rutherford classification and the various clinical situations a Step Ladder approach of using the least invasive to the most invasive procedure should be chosen.The decision should be made after clinical,Doppler,angiographic examination results are available.Lots of clinical trials on each of these modalities have been conducted and results of meta analysis available.

We shall discuss various scenarios.

1.In Rutherford early stages when claudication pain alone is there without tissue loss,if angiographic pictures show short segment or single segment disease endovascular procedures can give relief.If such a procedure is already done and the claudication returns then autologous bone marrow mononuclear injection intramuscular is best.

2.If the claudication pain is associated with loss of tissue which is minimal,then commercially available platelet derived growth factor incorporated gels are available.Autologous PRP application is also an option to heal the ulcer so that infection is under control and does not add on to the vascular compromise by reducing the venous return also.

3.If in stage 5 and 6 of Rutherford classification where there is rest pain with loss of tissue a combination of PRP for the ulcer healing and autologous bonemarrow for angiogenesis should be tried.

4. After getting reasonable angiogenesis we should not hesitate to combine surgical procedures like skin grafting or flap closure to quickly get wound cover as each day of exposed wound carries the risk of infection, inflammation and exudates loss.

Dr V R Ravi, ISCSG