Matsumoto Dental University
Graduate School of Oral Medicine

1780 Gobara, Hirooka, Shiojiri,
Nagano 399-0781, Japan

第 257 回松本歯科大学大学院セミナー

日　時: 2012 年 5 月 28 日(月) 12 時 15 分~13 時 30 分

場　所: 創立 30 周年記念棟大会議室「常念岳」

演　者: **Henry C. Y. Su**

(Biomedical Research Unit, School of Dentistry

National Yang-Ming University, Taipei, Taiwan)

タイトル: **A new strategy for accelerating wound healing and tissue regeneration**

There is growing clinical interest in regenerative medicine in the use of biomaterials made from autologous human blood because these products are biodegradable, do not induce tissue reaction, and exhibit valuable physiological functions. Blood-derived biomaterials obtained by combining a platelet-rich plasma (PRP) with thrombin are called platelet gels (PLT gels). The mixing of both fractions results in (a) the conversion of fibrinogen into fibrin, (b) the activation of platelets and (c) the release of a myriad of growth factors (GF) stored in the α-granules. Upon activation by agonists, platelets release a myriad of functional molecules which play a key role in tissue repair and regeneration by stimulation and differentiation of local stem cells. Among those are the numerous growth factors: platelet-derived growth factors (PDGF) -AA, -BB, or -AB, transforming growth factor-β (TGF-β1 and -2), vascular endothelium growth factor (VEGF), epidermal growth factor (EGF), fibroblast growth factor-1 (FGF-1), etc. PLT gels are now explored and proven to be unique non-toxic biocompatible tools for tissue engineering and cell therapies. In this presentation, a new strategy to optimize post-operative wound healing using blood-derived GF-rich biomaterials will be demonstrated, with a special reference to their clinical application and future vision.

担当:硬組織疾患制御再建学講座　各務　秀明