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## Journal of the Medical Association of Thailand, Vol 96, No 10

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### Low Molecular Weight Heparin Prevents the Progression of Precollapse Osteonecrosis of the Hip

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#### Abstract

**Background:** Hypercoaguable state has been indicated as a major risk factor in predisposing the idiopathic osteonecrosis of the hip. Furthermore, many studies have demonstrated that low molecular weight heparin (LMWH) can reverse the pathophysiology of the osteonecrosis of the hip in thrombophilic patients.

**Objective:** Determine whether LMWH can prevent the progression of idiopathic osteonecrosis of the hip.

**Material and Method:** A retrospective study of 36 patients who had bilateral idiopathic osteonecrosis with at least one hip in the pre-collapsed stage (Ficat & Arlet stage I-II) was conducted. In the study group, 18 patients (26 hips) received 6,000 units of Enoxaparin daily for 12 weeks. In the control group, 18 patients (23 hips) received no Enoxaparin. All patients were given radiographic evaluations every three months for a minimum of 24 months.

**Results:** At the last follow-up, 15 hips (57.7%) from the study group and five hips (21.7%) from the control group were observed to remain in the pre-collapse stage ( $p = 0.042$ ). Coagulation disorder was observed in seven patients (38.9%) of the experimental group and five patients (27.8%) of the control group. One patient from the study group exhibited hematuria with spontaneous resolution after the course of Enoxaparin injection.

**Conclusion:** A progression rate of idiopathic osteonecrosis of the hip from the pre-collapse stage to the collapsed stage was found to be significantly lower in patients who received LMWH.

**Keywords:** Idiopathic osteonecrosis of the hip, Hypercoagulable state, Low molecular weight heparin, LMWH

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