Editorial

M.M.		Samama ^a
J.		Monasterio ^b

^aBarcelona; ^bParis

The Symposium on Low Molecular Weight Heparins (LMW heparins) held in Seville on October 27, 1994, was attended by a group of experts from different countries. These experts have dedicated part of their research to the pharmacodynamics and pharmacokinetics of these molecules and to new strategies for the prevention and treatment of venous thromboembolism in surgical and nonsurgical patients – with special reference to enoxaparin.

Clearly new aspects have been discussed during this interesting symposium. Thus, the unanswered question regarding the respective role of anti-Xa and anti-IIa activity in the antithrombotic properties of LMW heparins was reviewed with new data. LMW heparin preparations are different mixtures of heparin chains. The distribution of the molecular weight fragments plays an important role in their anti-Xa/anti-IIa ratio. Although the clearance half-life is not dependent on the dose administered, it is important to note that anti-IIa activity is cleared more rapidly than anti-Xa activity. Biotransformation and metabolism of LMW heparins involve depolymerization desulfatation and around 10% of anti-Xa activity are recovered in the urine. In contrast to unfractionated heparin (UFH) LMW heparins are cleared by a non-saturable mechanism. These observations are clinically relevant in patients with severe thrombotic renal insufficiency. However, a study presented at this meeting showed that no dose adjustment for enoxaparin was required (at prophylactic dosage) for patients with impaired renal function. Prophylaxis of venous thromboembolism after surgery with LMW heparins is well documented. In contrast, the prevention of these accidents in nonsurgical patients, especially in patients in the medical wards, requires special attention.

Management of patients at risk of postoperative thromboembolism with LMW heparins with special reference to enoxaparin was thoroughly reviewed by an expert in this field. The regimens of one subcutaneous injection of 40 mg once daily starting 12 h before surgery, or 30 mg b.i.d. beginning postoperatively, mainly used in North America, in total hip replacement are of interest since both were proved to be efficacious.

Epidemiological data and the efficacy-safety profile of enoxaparin in selected and unselected medical patients were presented in an objective review. Two studies, a French and a German one, demonstrated that enoxaparin (either 40 or 20 mg s.c. once daily) was as effective and safe as UFH (either 5,000 IU s.c. t.i.d. or 5,000 IU s.c. b.i.d.) for the prevention of deep vein thrombosis, in nonsurgical patients with an increased risk of venous thromboembolism. Studies regarding therapeutic treatment with LMW heparins in patients with arterial thrombotic episodes are quite rare, although LMW heparins may have an advantage over UFH in cardiology. A review of all the available data is presented in this issue. Due to the fact that some evidence exists showing that the risk of bleeding with LMW heparins is somewhat lower than with UFH, the use of LMW heparins in cardiac and arterial reconstructive surgery is worth considering. A

preliminary study was presented during the symposium which encourages the development of large prospective randomized studies. There is no doubt that these proceedings constitute a useful, informative and up-to-date monograph for researchers as well as clinicians dealing with venous and arterial thrombosis both from a pharmacological and a clinical point of view.

KAHGEII

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E-Mail karger@karger.ch Fax +4161 306 12 34