Anticoagulation and venous thrombosis

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Anticoagulants take up a dominant place in the preventive treatment of deep venous thrombosis (DVT), in every situation in which this risk is present, and especially in the context of a surgical act, prolonged immobilization or in the event of diseases which disturb the biological mechanisms of coagulation. Anticoagulants are also the base of a curative treatment of compound deep venous thrombosis, possibly linked with surgical intervention or a fibrinolytic treatment.

Venous thrombosis remain a warryng disease due to their progressive forms marked by two formidable complications:
- pulmonary embolism which can be revealing, often recurring, and sometimes fatal.
- post-phlebetic disease caused by an obstacle in the venous blood flow or by the distal blood reflux, essentially in orthostatism following valval destruction.

The use of low molecular weight heparin (LMWH) has come to modify the findings of the preventive treatment, and the most recent studies, which are still to be confirmed, show an interest in the curative treatment of DVT.

The unfractionnated heparin (UFH) still holds an important role in the curative treatment.
The oral anticoagulants are used at an earlier stage, to take over from the heparin treatments.

The indisputable effectiveness of these anticoagulant treatments goes hand in hand with a, not inconsiderable, risk of complications, dominated by hemorrhagic accidents.

The appearance of LMWH has brought the hope of considerably reducing these risks. Research carried out in test tubes and with animals have brought to light [42]:

- a large bioavailability for subcutaneous injections allowing the reduction of the number of daily injections
- a reduction in bleeding time
- a lesser effect on the activation of platelet functions
- the hope of reducing the risk of hemorrhage and at the same time keeping the same level of effectiveness
- the hope of reducing the frequency of thrombopenia caused by the heparin

However, these hopes have been partially dashed because, even though the heparins have proved that in the sphere of prevention a level of effectiveness at least equivalent to that of the UFH, the frequency of hemorrhagic accidents is not always reduced in a statistically significant manner.

The risk of thrombopenia has not been eliminated and the problem of the biological monitoring of the treatment remains open.

Oral anticoagulants used in the long time, as a relief treatment from heparins, are also responsible for hemorrhagic accidents. However, since a system of surveillance of the treatment was created, based on the INR (International Normalized Ratio), one tends to use weaker doses of oral anticoagulants on the grounds of fundamental biological findings, backed up well run clinical tests [15].

One must pay particular attention with prescribing anticoagulant treatments to pregnant women and be especially aware of its repercussions on the fetus.