Substitute or target the coagulation cascade: from a rare bleeding disease to common thrombotic disorders

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SUBSTITUTE OR TARGET THE COAGULATION CASCADE: FROM A RARE COAGULATION DISEASE TO COMMON THROMBOTIC DISORDERS. SUCCESS STORY OF KOGENATE® AND XARELTO®

Parallel advances in contrasting diseases such as haemophilia and common thrombotic diseases, both arterial and venous, have recently clearly demonstrated the major successes achieved by either replacing or inhibiting specifically one of the clotting factors of the coagulation cascade.

Two randomized, controlled, parallel-group pioneering trials studies using Kogenate®, a recombinant F8 concentrate, have indeed validated the concept that intravenous prolonged substitutive therapy of F8 deficiency provides major physical and well-being benefits not only in children with severe haemophilia A when initiated early but also in adults when started later in life. The large experience accumulated with Kogenate® also shows that F8 concentrate produced by biotechnology represents a convenient and safe alternative, devoid of potential infectious risk, to plasma-derived F8 concentrate for patients with F8 deficiency. Currents efforts to improve the unfavorable kinetics of F8 by modifying its structure and prolonging its persistence in blood should render replacement therapy with Kogenate® not only easier and but also more efficient by allowing a more prolonged correction.

Parallel to the successes of replacement therapy for the rare patients with haemophilia, direct and specific inhibition of activated factor X (FXa) with an oral agent such as Rivaroxaban (Xarelto®) has recently been found to provide a convenient and more efficient alternative to classical oral or parenteral anticoagulants (VKA and LMWH) for the numerous patients requiring a curative or preventive treatment of both venous and arterial thrombosis, mainly patients with (non-valvular) atrial fibrillation at risk of embolic events. With the exception of patients with severely reduced renal dysfunction at risk of drug accumulation (CrCL < 15 ml/min), Xarelto® is becoming a privileged antithrombotic agent for the many patients requiring anticoagulant therapy. Complementary to Xarelto®, Cardio-aspirin® remains the antiplatelet of choice used alone or in conjunction with other antiplatelet agents for the many patients at risk or with established arterial disease.

With Kogenate®, Xarelto® and Cardioaspirin®, Bayer has provided the medical community and the rare patients with haemophilia (1.000 in Belgium), the numerous candidates for prolonged oral anticoagulation (> 100.000) and the even larger group requiring antiplatelet therapy (1.000.000) with an armamentarium of innovative, safe and efficient haemostatic and antithrombotic agents. These agents are constantly being further validated and improved to correct efficiently and safely the defective clotting system typical of rare or common diseases.

References: 1. Manco-Johnson MJ, J Thromb Haemost. 2014;12: 119–122]. J Thromb Haemost. 2013;11(6):1119-1127. 2. Manco-Johnson MJ, N Engl J Med. 2007;357(6):535-544. 3. Coyle TE, J Thromb Haemost. 2014 Apr;12(4):488-96.

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