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Impact of the COVID-19 pandemic on therapeutic choices in Thrombosis-Hemostasis

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Major therapeutic developments have been achieved in the field of thrombotic and hemorrhagic diseases over the last decade. These include the development and validation of four direct oral anticoagulants (DOACs) indicated for numerous thrombotic disorders, both arterial and venous [1]. It also involves new haemostatic agents for hemophilia patients, in particular Factor VIII (FVIII) and Factor IX (FIX) concentrates with extended half-life (EHL) [2;3] and a bispecific antibody mimicking the action of FVIII (Emicizumab) [4;5].

No one can dispute the major benefits of these widely adopted drugs, which have fundamentally changed the management of many patients. Among the benefits of DOACs are their antithrombotic efficacy equal to or superior to anticoagulation with vitamin K antagonists (VKAs) or heparins, their safety and ease of use in many therapeutic or preventive indications [6-8].

At the same time, EHL-FVIII and especially EHL-FIX concentrates offer significant advantages over standard half-life FVIII and FIX concentrates. The benefits are even greater for Emicizumab. This agent makes it possible to treat hemophilia A patients with and without inhibitors with infrequent subcutaneous injections (1x/week to 1x/4 weeks) while maintaining steady coagulant activity.

The benefits of these various drugs are well recognized by health care professionals. These benefits appear even greater in the context of the COVID-19 pandemic and health crisis that is sweeping the planet and the containment it requires for hundreds of millions of people.

The current situation imposes restrictions on mobility, reduces access to medical care, both general practitioners and hospitals, access to pharmacies, laboratories and nursing care. As for hospitals, many are saturated and devote most of their resources to the management of patients with COVID-19. In this context, the benefits of DOACs and new treatments for hemophilia appear even more obvious.

For DOACs, the administration of a fixed dose, the absence of monitoring, the limited number of drug interferences, the monotherapy without prior treatment with heparins for patients with acute venous thromboembolic disease and the absence of bridging with heparin during invasive procedures are all major advantages. Added to this is the reduction of the risk of hemorrhage

with DOACs, which is relevant as access to emergency rooms is becoming problematic and blood products must be spared.

On this basis, the current crisis offers multiple arguments for favouring anticoagulation with DOACs in patients without contra-indications. For patients in whom oral anticoagulation must be started, it seems legitimate to favour the use of DOACs. For patients on long-term VKA, the current crisis is probably an opportunity to switch them to a DOAC. For patients who should imperatively be or remain on VKAs (mechanical cardiac valve, antiphospholipid syndrome, renal impairment depending on it severity, ….), the use of point-of-care (POC) devices for measuring INR should be promoted. However, it will be difficult to implement such monitoring in the midst of the crisis due to the potentially limited availability of POC devices, strips and logistical barriers of education. It seems clear, however, that greater use of INR measurements by POC devices in the future should prevent and avoid monitoring difficulties in the event of a new health crisis.

For hemophilia patients who are candidates for prophylactic treatment, EHL-FVIII and especially EHL-FIX concentrates represent a valuable alternative. The benefits are multiple: limitation of the number of injections, better protection against bleeding episodes, less frequency of supply.

For Emicizumab too, the benefits are numerous: avoidance of intravenous injections, which is important for patients unable to perform self-infusions, infrequent subcutaneous injections, stable effect providing very good and prolonged protection against bleeding episodes, including patients with inhibitors against FVIII.

Any critical situation amplifies well-known daily difficulties that are often minimized and for which existing solutions are frequently insufficiently implemented. DOACs and new hemostatic treatments offer major advantages that are even more obvious in times of crisis. The current pandemic highlights many arguments in favour of these drugs and is expected to have a significant impact on their use in the short and long term.

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