C1- inhibitors (Berinert®) versus icatibant in the treatment of hereditary angioedema

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Background: Up to 25% of people in the U.S. experience angioedema and/or urticaria in their lifetime, accounting for over 1 million ED visits each year. There are two key aetiologies of angioedema: Histamine-mediated (acquired) and bradikinin-mediated (hereditary). Any potential lack of awareness can lead to treatment errors and poor outcomes for patients presenting with bradikinin-mediated angioedema.

Objectives: To recognize hereditary angioedema which needs a specific treatment and to discuss the pharmacological differences between C1-inhibitors (Berinert®) and Icatibant for the treatment of hereditary angioedema.

Methods: All cases of hereditary angioedema were registered for a period of 1 year (2015) in the Emergency Dept. of Galliera Hospital, Genoa, Italy, using a program called 'PIESSE'. After this period, the data were analyzed, and some considerations were made, which include, the ability to make a prompt diagnosis of hereditary angioedema, and, in particular, the differences between the use of C1-inhibitors and Icatibant.

Results: We observed a total of 39 cases of angioedema, 11 of them were bradikin-mediated. We are glad to point out that all the hereditary angioedemas were recognized immediately by the medical doctors due to a particular awareness of this kind of disease. 6 cases were treated with Icatibant, and 5 with C1-inhibitors (Berinert®).

Conclusion: Both drugs are effective in treating hereditary angioedema, but C1-inhibitors must be administered at higher doses (about 20 U/kg) endovenously in recognized hereditary angioedemas only. They have a human origin (this fact affects their safety), they must be stored in a refrigerated box, and their half-life is very long (approximately 87 hours). Icatibant can also be used in cases of suspected hereditary angioedema as it has a synthetic origin (safer), it can be stored anywhere and its administration uses pre-filled syringes subcutaneously. It has a great advantage that it can be used by patients themselves who are known to be affected by hereditary angioedema. Both drugs are able to relieve symptoms quickly. In our experience, Icatibant is better than C1-inhibitors, especially in an emergency department, although the use of Icatibant must be related to a complete knowledge of how to distinguish hereditary from acquired angioedema.

Biography
Silvia Leone graduated in 2010 with the highest Honour’s (summa cum laude) and an Academic Medal from Genoa University. She is now attending her final year at the Post-graduate School in Toxicology and Clinical Pharmacology in Genoa. She is working in the A&E Department of Galliera Hospital in Genoa. She has been working as an Emergency Doctor since January 2014 and has been cooperating with the main Alcohological Centre in Liguria Region since 2011. She has published 30 papers as author or co-author, and has attended around 20 congresses all over the world, presenting approximately 15 posters. She was Speaker at the BTS Congress (British Toxicology Society) in Birmingham in 2015, and in Turin at the Simeu (The Italian Society of Emergency Medicine) Congress in October, 2014. She has just gained the title of Cruise Chief Doctor in July, 2016, after an Italian competitive exam held in Rome, Italy (Ministry of Health).

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