COVID-19 in Adults and Children: The Clock is Ticking

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Short Communication

Covid-19 the world is shocked. Globally, 896450 confirmed cases and 45525 deaths (WHO, situation report 73, 2 April 2020) reveal that a viral agent is spreading in an exponential way all around the world with to date unknown killing potential. What we know, the virus came from Wuhan, China, with a rapid spreading the world never had seen before. Where he came from, from a ‘fish market’ in the heard of Wuhan, from a bat, from a laboratory, nobody can say exactly and with great security. COVID-19 in children is a complete other scenario as in adults. Severe cases are very rare. The explanation for this entity is not clearly found. A situation of immature Angiotensin-2-receptors in children could be the explanation for this. Moreover, in children, more AT2-ACE2-receptors were found compared to adults, suggesting an important role in pathogenesis. We know, that in adults COVID-19 uses AT1-ACE2 receptors in the lungs, clearer in Type II Pneumocytes, to get in touch with human being. So, there is a clear difference in pathogenesis and clinical course of children with COVID-19 and adults with COVID-19. Researchers are “on fire” in finding a therapeutic effective agent to treat the novel SARS-CoV-2 virus. They focus on drug theories inhibiting the virus itself by alpha ketamine inhibitors of the main protease Mpro (3Clpro), a work which was yet published in Science in 2020 [1], by binding to angiotensin-2-receptor with sartane like losartan or valsartan [2-4], or drugs like Camostat (protease-inhibitor) to inactivate the serine protease TMPRSS2, which is necessary in docking to the Angiotensin-2 receptor [5-8]. And in finding a more phased approved vaccination against COVID-19 corona disease, a long way is to go. There is extensive research in different countries to produce a vaccination against COVID-19 in a hurry. In all scenarios, clinical trials and tests are lacking,
nor off label studies performed to date with good results in humans. The world has no time. Intensive care units are overfilled with severe cases of COVID-19 patients with a need for ventilators. What we know, COVID-19 dock at ACE2-receptors in the mouth and tongue [9], suggesting an important necessity to wear mouth and face masks. ACE2 receptors are found in many different organs, but relating to the pathogenesis of COVID-19 the ACE2 receptors of the mouth, tongue and the lungs play a major role [9]. Off-label trials in infected COVID-19 patients must follow now. We need an effective answer for COVID-19. As soon as possible. The world has no time anymore.

References