

Attention deficit and hyperactivity disorder (ADHD) in infancy

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The main objective of this paper was to review recent literature and analyze how ADHD research and conceptualization has adapted to what we clinically see at our practice. This review is of special importance due to the highly heterogeneous clinical presentation of this disease. We also review some aspects involving non-pharmacological and pharmacological treatment. The main aspect that is to be noted is that appropriate treatment at the correct time of treatment lead to a greater quality of care for our patients. [1]

In this review paper we look at the most recent literature on Attention deficit and hyperactivity disorder (ADHD) in infancy because of the great relevance this topic has gained in recent years [2]

Ignorance of the enteropathogenesis and pathophysiology of the disorder requires that its definition, as a psychiatric entity, remain of clinical nature. Three are the cardinal symptoms: hyperactivity, a period short of attention and impulsiveness [3]

ADHD is one of the main reasons' patients reach out to mental health professionals at early age and if not addressed symptoms can last well along to adulthood, approximately 15% will continue to meet full diagnostic criteria and an additional 50% will continue to have impairing ADHD symptoms as young adults. In contrast to was originally described as ADHD limited to childhood. Children presenting symptoms often lead to low school performance and conduct disorders. [4]

In recent year there has been a focus on the neurobiology of this disorder studying how neurotransmitters like serotonin and dopamine interact with coding and decoding of sensory input and how with medication with these specific targets at central nervous system play an important role in symptom control predominantly in the reticular formation. Genetic studies on family aggregation have shown how our genetics play an important role on presentation, yet no single gene has been found be responsible for this disorder. Epigenetic factors such as exposition to toxins in pregnancy and early life has also been associated with ADHD. [5-7]

The most accepted neuroanatomical hypothesis developed mainly through brain imaging and neuropsychological testing, states that with the existence of front striated hypoactivity due to monoamine deficiency, suggests that attention, impulsivity control and stability motor are

components of the supervisory system that exerts from a wide functional network involving frontal, striatum, limbic and reticular areas. [8-10]

In regard to psychosocial findings it has been shown that in children with a certain neurobiological predisposition an unfavorable environment can act as a predisposing and precipitating factor [11]

Treatment options and first line recommendations vary from geographical area, for example in the US medication is commonly used and European literature suggest reserving medication for patients who did not respond to the implementation of non-pharmacological strategies. [12] Non-pharmacological measures center upon life skills and psychosocial education that adapt and transform through stages of development. Recently studied interventions include specific dietary recommendations with little evidence. [14]

Pharmacological interventions require a careful evaluation of the child and their environment as well as establishing clear treatment goals. [15] In preschool aged children non-pharmacological treatments remain to be first line treatment across various literature [16]. In school aged children two main medication type groups are discussed. Stimulants being represented by methylphenidate and the newer lisdexanfetamine with common side effects being initial insomnia, loss of appetite and irritability. These side effects can be addressed by education patients and care givers. Severe side effects include mania, movement disorders and psychosis in which case medication should be stopped immediately. The other group of medication are non-stimulants such as atomoxetine, clonidine and guanfacine common side effects include sedation due to their 2 agonism. [17-20]

In conclusion the study of ADHD requires clinical criteria that is flexible and adapts to different stages of development that includes biomarkers.

It is also necessary carry out early interventions to decrease the development of complications and assess the presence of comorbidities that alter the course of the disease and treatment adherence. One of the main objectives should be education and awareness to reduce stigma, as well as promote research and development of new treatments. It is essential to have the participation of care givers

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