*Child Psychiatry and Human Development*
Volume 1, Number 1, Fall, 1970

# Hyperkinetic Syndrome: The Role of Depression

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ABSTRACT: The hyperkinetic syndrome is one of many manifestations of minimal brain dysfunction and emotional distrubance. Both physical and psychologic factors can be seen in its etiology. Depression has often been found to be related to hyperkinesis. The children described in this study give ample support to the frequency of this relationship. Some preliminary hypotheses are also drawn about the dynamics of the relationship between depression and the hyperkinetic syndrome.

There is a trend apparent in the voluminous literature regarding minimal brain dysfunction as refinements are made in both diagnosis and treatment. Many disciplines contribute to our understanding. Neurologists and psychologists, especially, have increased our understanding of the organic components, and both educators and therapists of many backgrounds have learned much in working with these children. The trend is toward greater attention to the interaction of organic and emotional components.[1] Minimal brain dysfunction is seen to affect the child at several different levels:

1. There is a direct effect of the dysfunction as a result of change in the substance of the physiology of the brain. This effect is further determined by the state of development of the child at the time when the dysfunction is incurred. For example, altered perceptions or memory loss may occur.

2. Within the child, there is a psychologic and emotional reaction to whatever dysfunction he may consciously, or unconsciously, experience. If his memory is poor, he will devise his own methods to cope with it, varying from systems to recover information to denying the presence of the difficulty. At the same time, the child may recognize his deficit and experience anger, sadness, or anxiety because of it.

3. To complicate the issue, the child's emotional state may further alter the functioning of his brain. If he is anxious, it will alter his perceptions or his capacity to remember. If he is sad, his rumination will certainly decrease his efficiency in dealing with the external world.

4. Beside the child's reactions to himself, his family presents a complex of attitudes, expectations, frustrations, and feelings regarding his deficits. If his parents do not recognize his problems, they may expect more than he can deliver. If they unwillingly recognize it, they may reject him, overprotect him or try to pretend that his problem does not exist.

5. The child with minimal brain dysfunction is, of course, subjected to all the usual intrapsychic, interpersonal, and intra-family processes.

These interactions are becoming well recognized and the application of a combination of "organic" and psychologic approaches to the child with brain dysfunction is clearly stated. The elimination, thereby, of this dichotomy has been fruitful, for with its absence more encompassing therapeutic measures have been possible. For example, children can be given medication and supportive psychotherapy to make them more available to educative techniques geared to retrain or substitute for other aberrant functions.

Minimal brain dysfunction includes a number of different symptom complexes, such as perceptual disturbances, coordination difficulties, learning disturbances, mild cerebral palsy, and the hyperkinetic syndrome. The hyperkinetic syndrome is one area where clinicians and researchers are not able to clearly eliminate the mind/body duality.[2] The purpose of our paper is to propose an additional way of conceptualizing the hyperkinetic syndrome, keeping in mind both "organic" and psychologic factors. It must be added, however, that our ideas are not proposed out of extensive research, but represent impressions gained from clinical findings.

Hyperkinesis is probably determined by a number of coexistent etiological factors. Special requirements seem to be necessary for the development of the hyperkinetic syndrome, although they are not entirely clear. It is known that an organic brain disorder can exist without the formation of hyperkinetic behavior. In the same vein, the symptoms can occur in children who have only evidences of psychologic disturbance. Closer scrutiny of the etiologic underpinning is evidently needed.

The literature about the hyperkinetic child has been preponderantly descriptive.[3,4] Any deeper evaluation of the problem has looked at the possible central nervous system aberrations which may be held accountable. If a psychological view is held, it is usually in "opposition" to the more frequently upheld ideas about minimal brain dysfunction being the causal factor in hyperkinesis.[2] It seems reasonable that a dual approach to viewing children with this problem would be more useful. For instance, the developmental history is one example where both the areas of physical and psychological factors converge and can in some measure be assessed simultaneously. Noting classic developmental milestones in the hyperkinetic child's background is not enough. We need to understand developmental *processes*, such as the quantity and quality of maternal attention at any early age, the mother's attitude toward the child, the

circumstances under which the child began such independent acts as feeding and walking, and the quality of the toilet-training (not just when), with the child's emotional responses to it. Then, too, the responses of the parents to the hyperkinesis, with attendant prohibitions by them, or feelings of helplessness; all have an impact on the resultant symptomatology.

## Hypothesis

The hyperkinetic syndrome consists of a tetrad of symptoms: hyperactivity, distractibility, impulsivity, and emotional instability. Children frequently do not have all the symptoms, but usually have more than one. Often some measure of learning disability is also seen in these children, i.e. their capacity to learn or their productivity is impaired, primarily or secondarily.

Closer scrutiny of children who have hyperkinetic syndrome based on a variety of etiologies gives some evidence for a linkage between depression and the hyperkinetic syndrome in some cases. It is important to find both descriptive evidence of the depressive disorder in the child, as well as the psychological dynamics, to substantiate the depression. The following cases represent patients in which this was found to some degree. They were selected because they were children not yet adolescent whose presenting complaint was hyperkinesis or major elements of that syndrome.

## Case Histories

Harry was ten years old when he was first referred for psychiatric evaluation. He was a restless and impulsive boy, lying, stealing, destroying household items, playing with matches and knives, and easily angered or upset by other children. In spite of this, his school work was done well. Harry's problems had dated back to when he was three years old and his mother had gone back to work. He was cared for during her working hours by his natural father, even though he and Harry's mother were divorced.

Until he was age three, Harry had done fairly well. He had been a full-term baby, weighing eight pounds, nine ounces and was delivered by instruments after a five-hour labor. He had severe measles at age one, but there were no convulsions or residual problems. His physical development was normal.

Harry's mother remarried when he was eight years old. Thus, his step-father had been in the home for about two years at the time that we first saw Harry. He frequently became angry at Harry because of his omnipotence and misbehavior. Harry's mother at times was openly rejecting of him and at other times was overprotective. Harry had written his natural father since he left the

home a few years before, but had never received an answer. He had an older sister who was having no problems.

Harry's physical examination, including a neurological workup was within normal limits. However, in the psychiatric interview, Harry appeared to be ingratiating, anxious, and restless. He stayed on topics only a short time. It was apparent that Harry was unhappy, particularly when he commented, "At times I'm so unhappy, I would like to do something to myself."

Psychological testing stated that Harry had a brittle superego which was poorly integrated into his psychic structure. At times it was noted that he tended to direct aggression against himself, but this usually took on the appearance of feeling sorry for himself in a depressive way. He vascillated between feeling sorry for himself and lashing out impulsively at others when his defenses gave way. There were no evidences of perceptual problems in this testing.

Harry is one of many hyperkinetic children with a poor self-image, difficulty controlling his impulses, and guilt related to it. An example of the child with more clearcut evidence of minimal brain dysfunction follows:

Tommy was a nine year old, who had a long history of hyperactivity, aggressive behavior, slowness in attaining developmental milestones, and learning difficulties. Tommy's hyperactivity was noted first when he was a toddler and it had gotten progressively worse. Along with this, his behavior had become increasingly aggressive as he had more contact with other children. His parents found him almost unmanageable and the school placed him in a classroom for emotionally disturbed children.

His parents, who were both born in Germany, coming to the United States when they were both thirteen years old, had had continuing problems throughout their marriage. The marriage had been precipitated by Tommy's mother's pregnancy with him at age sixteen. Tommy had two sisters younger than he, both of whom were more acceptable to his mother than he. His father had difficulty in holding a job and also appeared to have little interest in his family. He seldom did anything with Tommy except when he disciplined him. The parents had separated on more than one occasion.

Tommy's birth was premature, with a birth weight of only four pounds. He walked and talked at about sixteen months of age, but he had not experienced any severe illnesses or accidents. Tommy's physical examination and neurologic evaluation proved to be normal.

In the clinical interview, Tommy was fidgety. His conviction that little could be changed in his life was striking. He recognized his mother's preferential treatment of the girls and was resentful of it. He also believed his father would never be able to spend more time with him. Tommy could not even guess at what he would like to be when he grew up because, as he put it, he was having a great deal of difficulty getting through his childhood. There were no gross

evidences of Tommy's perceptual problems in this interview, although teachers had frequently noted his reversals, inability to recognize or remember letters, and his inability to use number concepts.

Psychological testing showed Tommy to have his greatest difficulties in items requiring visual-motor coordination and abstract reasoning. He tended to be concrete. Successes at his age level came in vocabulary definition and comprehension and rhyming. In the projective aspects of the testing, he consistently saw boys as being sad and dejected. He saw his parents as gone, with little hope for their return. In general, he was an unhappy boy, who felt separated from his family and expected little comfort or support from his parents. He recognized his own inability to cope with his feelings in the world around him.

Beside these two case examples, other statements of clinical findings and psychologic tests can be found which point toward the existence of depression in the hyperkinetic child: "This boy, a seven year old, has experienced early frustration of oral needs, so that he is a lonesome and unhappy child. There has been sufficient superego development for him to experience conflicts regarding his drives, but he has a strong need to interact with people and a need for activity in general; hence, his aggression leads to more antisocial behavior."

"This nine-year-old boy is a depressed and self-punishing little boy, who experiences such harsh parental attitudes that he feels rejected and unable to strike back at his parents. He displaces these aggressions on to other authority figures and also tends to turn them upon himself."

"His (six years old) hyperactivity appears to result from his anxiety and his attempts to avoid or deny feeling depressed, sad or unhappy, or unnaturally happy under conditions usually resulting in unhappiness and pain."

"This ten-year-old boy is very depressed and has been for a long time. He was able to verbalize that he has always felt 'unhappy' and he doesn't particularly think that things will ever change. He has never liked school and just doesn't seem to have any fun there whatsoever, making him feel worse when he performs inadequately." In the psychologicals done some time later, after therapy had led to a reduction in his symptoms, one reads, "While there are hints or themes of loss and sorrow, feelings of worthlessness and strong superego elements, current findings do not reveal as intense depressive tones as were assayed in his previous evaluation."

"The anxiety coexists in the ten-year-old boy with strong depressive feelings, which both have their roots in his half-conscious conviction that he is no good, that there is evil destruction and rottenness inside him and he had better keep it hidden or he will find himself in even more unpleasant straits than he does right now. He has a punitive superego which holds very high standards for him and turns on him viciously when he doesn't live up to them, thus, increasing his depression and his conviction that he is no good inside."

## Discussion

In the adult syndrome, called agitated depression, the symptoms frequently seen are agitation, poor concentration, depression, and irritability. This syndrome, one usually related to a reactive depression, is not often seen in children. However, if the symptoms of agitated depression are compared to those of the hyperkinetic syndrome, some striking parallels can be drawn. Hyperactivity and agitation are not far separated. Distractibility and poor concentration may have many similarities; irritability and emotional instability are, likewise, quite similar. If impulsivity is the mode by which the child turns aggression outward, conversely depression can be seen as an expression of aggression turned inward. Impulsivity is more the style that the child uses in handling aggression.[5]

Depression, however, is not frequently described in children.[6] When it is, it is usually in infants and related to maternal deprivation or loss, as described by Spitz[7] and Bowlby.[8] Depression related to conflict over expression of aggression and the consequent guilt with aggression turned inward is less frequently seen.[6] In the children we have described, some combination of depressive elements, both from deprivation and later conflicts over agression, seem to exist as an intrinsic part of the disorder, going beyond the usual conceptualization of depression as simply a *reaction* to the organic disability. These children very often have a history of some form of rejection or deprivation in their background which can account for a reaction similar, but more subtle than that which Bowlby describes. Whether this is present because of some problem on the mother's part, or because the mother has difficulty "tuning in" on her constitutionally-predisposed "hyperkinetic" child, is difficult to determine. Either way, these elements are evidently present at an early point in the child's development, no doubt setting the stage for the subsequent evolution of a poor self-image within the child. Also contributing to poor self-image is the difficulty the hyperkinetic child experiences in controlling himself. In particular, as the child enters that period when he is expected to learn to walk and to meet social demands, the evidences of hyperkinesis are more clearly seen. If he does not master these body functions well, his self-image is further depleted and if his impulses prove difficult to control, he may begin to fear and hate his own inability to perform as his parents would have him do. With this latter development, the elements of conflict over aggression and aggression turned inward become part of the picture. Characteristic of all children, however, the struggle does not persist entirely internally and a good proportion is projected into his environment. Accident proneness may develop. The child also seems predisposed by his motoric drivenness and psychological makeup to involve himself in forbidden activities. With this his parents and later others become directly involved with his control and the child's aggression can once again be

externalized. His impulsivity and hyperactivity bring on punitive efforts by the others to control him, allowing him to seek this punishment as a control measure or atonement for his "wrongdoing," while he resents those who mete it out. To some extent, one could anticipate that this child's superego development may be distorted, with overreliance on external forces to aid in his control or to sanction his improvements in control.

Empirically, one can note both the continuation and alteration of the expression of this process in adolescence. Generally, the hyperkinetic child becomes less so as puberty is reached. An upswing in antisocial behavior may be seen. It is also not uncommon to see overt depression develop in the adolescent. This gives a possible answer to what happens to the hyperkinesis as the child reaches puberty.

Another sidelight in viewing hyperkinesis as linked to depression is the possible understanding it lends to the action of stimulant (and anti-depressant) drugs on children with this disorder. Since at least 1937,[9] we have known that amphetamines and similar medications have a significant beneficial result in hyperkinetic children. Could it be that the predominent effect *is* the alleviation of the depressive underpinnings? If so, this may open up the possibility of use of other anti-depressant drugs with hyperkinetic children.

## Conclusion

It has been suggested that there is a linkage between depression and the hyperkinetic syndrome. The presence of depression has been demonstrated via clinical psychiatric observation and psychological testing in a number of children whose presenting symptoms were found in the hyperkinetic syndrome. It is postulated that the presence of depression may be related to the child's self-image and to his difficulty in controlling aggression and parental rejection, which may or may not be reactive to his organic difficulties. Some case histories were given to support these views and further empirical observations were added regarding the possible dynamic background of these children.

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