

Editorial

# Diagnosing Autism in the Presence of Middle Ear Auditory Deficiency

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#### Editorial

Irrespective of all popular misconceptions, the diagnosis of Autism is not clinched, up till the present moment, by molecular, genetic, brain imaging techniques or a blood marker test. It depends on a detailed but essentially partly subjective tri-partite assessment of the child's cognition, linguistics and motor skills. Although in the severe forms of Autism, children lack any language or social interaction skills, high functioning patients may only have mild to moderate deficits. However, the child must show the clinical hallmarks grouped under two broad categories, namely

Deficits in social interactions and communication.

Restricted or repetitive patterns of behavior and interests.

This communication stresses the potential and rarely encountered misdiagnosis of mild to moderate Autism in a case of serious auditory deficiency of middle ear origin. Where cause of deafness threatens functional integrity of the brain (e.g. CMV, meningitis, rubella, prematurity and some syndromic causes of deafness) it is not surprising to find that rates of Autism rise. Here, we focus on auditory deficiency specifically due to middle ear pathology. This excludes auditory deficiencies due of brain stem or cortical origin.

A number of red flags (not diagnostic in themselves) based on a little child's behaviour, open the door to a consideration of the diagnosis of Autism. Although such a child may in fact suffer from Autism and Deafness, one is struck by the similarity of behaviour in the undiagnosed, moderate to severely deaf small child [1].

If we transport ourselves to the world of a non-autistic child who is severely hard of hearing, we realise the all too logical retreat into a sphere of existence deprived of what is expected to be normal behaviour. The normal hearing child will look when called, learn to smile at hearing encouragement and endearing noises, automatically build up facial gestures, eye contact responses and adequate non-verbal responses. The normal child emulates vocal sounds and by pavlonian response learns to repeat on seeing and hearing approval. We stress that this is beyond simply non-verbal communication. Furthermore the normal child is far too distracted by the colourful and noisy world of his to dwell, like the deaf child, on the absorbing details, say of a toy car with moving parts such as wheels. In his silent and isolated world, such a toy may make him inspect it from all angles and take an "abnormal" interest in say, the movable wheels. Likewise i-pads, TV, computer games may absorb "abnormally" absorb him and make him further distance himself from the silent and incomprehensible world around him of reality [1,2].

With this in mind, let us consider these red stated red flags of Autism:

By 6 months, no social smiles or other warm, joyful expressions directed at people.

By 6 months, limited or no eye contact.

By 9 months, no sharing of vocal sounds, smiles or other nonverbal communication.

By 12 months, no babbling.

By 12 months, no use of gestures to communicate (e.g. pointing, reaching, waving etc).

By 12 months, no response to name when called.

By 16 months, no words.

By 24 months, no meaningful, two-word phrases.

Any loss of any previously acquired speech, babbling or social skills

While, not in the least suggesting that the autistic significance of these red flags we stress caution from falling in an all too common a misleading scenario. Such a misdiagnosis may have both clinical and medico-legal consequences. One may argue that sufficiently prolonged hearing loss in the young child may induce a clinic-social situation not far removed from that of Autism. Furthermore such a normal but deaf or quasi-deaf child may in fact benefit from Autism management in addition to the chronic ear management to improve hearing. Yet, this is not a valid reason for not challenging the situation. Furthermore, the picture may simulate Autism sufficiently, to make diagnosis virtually impossible to rule out. Not even good or excellent clinical improvement by the necessary therapy-including the middle ear treatment-may necessarily effect a retrospective diagnosis, as both conditions may exhibit an excellent response.

Some may challenge the above argumentation on the basis of the evaluation of the second hallmark feature of Autism-the restricted or repetitive patterns of behaviour. Such patterns are often used as the final push to stamp a diagnosis of Autism. Here, we suggest that we seek light from the science of Zoology [2].

Abnormal repetitive movements (ARBs) or 'stereotypical behaviours' are repetitive, unvarying and seemingly functionless patterns of behaviour found in captive animals. 80% of giraffes, 69% of gorillas, and 43% of elephants in captivity display these behaviours. Repetitive behaviours are the commonest category of abnormal behaviour observed in confined animals. One may wonder about the end point of the argument here. It is very simple: the small child with serious auditory deficiency from middle ear disease is as isolated as any confined creature. Unless proven otherwise, we maintain that it is not impossible that, specifically in this group of very young children, the restricted or repetitive patterns of behaviour and interests are an expression of psychological and at times even subsequent resultant physical isolationism, primarily resulting from severe auditory deficiency.

One is justified to ask why ARBs are not exhibited by all children with severe hearing deficiencies. Quite possibly, it is for the same

reason that only 80% of giraffes, 69% of gorillas, and 43% of elephants in captivity, display these behaviours. And here we enter the world of personality types, which has, as yet, been far from fully explored both per severe hearing deficiencies as well as to the intrinsic corresponding evolutionary implications. As unquestioningly fascinating as the subject is, at this stage, we must not diverge from the point of this communication. It is impossible to over-emphasize the crucial need to reflect deeply before the diagnosis of Autism in any of its forms is laid at the door of the auditory deficient small child suffering from middle ear pathology.

Austen, Grey and Carney have shown that misdiagnosis of Autism is commoner in such a population with deficient hearing as compared to an equivalent but normally hearing population. There are still many, who, are prepared to jump on the Autism band-wagon. As, a result, not only is a misdiagnosis effected but in a number of cases, middle ear deafness has, and is still, being completely missed. This opens up the spectre of legal liability on much stronger grounds than the actual misdiagnosis. Apart from all medico-legal and other implications, first and foremost is the failed opportunity to save a little child from much suffering [3].

### References

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