DELAYED OR ABNORMAL LANGUAGE DEVELOPMENT

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Introduction

Delay in talking is a very common complaint which brings young children to the doctor. The main causes are mental retardation, developmental language disorder, autism, hearing impairment and "late maturation" in a normal child.

Red Flags for Aberrant Language Development:

1. No or inconsistent response to sound: This is abnormal at any age and a hearing test should always be obtained without undue delay.

2. Most babies say their first words with meaning by age 13 months, and if they have not done so by 24 months, that is definitely abnormal.

3. By 24 months, most babies are able to join two different words to form a phrase or sentence. Inability to do so by 3 years indicates the need for medical evaluation. Combining two words which are the same (e.g. no, no), saying a word with more than one syllable (e.g. aeroplane) or a Chinese word made up of more than one character (e.g. feiji for aeroplane in Mandarin), do not qualify.

4. By 36 months, most children can speak in sentences and engage in conversation. If the child's speech is totally unintelligible, if he repeats what is said to him rather than answer appropriately (echolalia), if he says the same thing over and over again, he has a language disorder. Echolalia is normal at age 18 months. It helps the child learn to speak by repeating what someone else says. Only if it persists up to 36 months is it abnormal.

5. Most babies are able to point to indicate objects they want by 13 months. If they have not started doing so by 18 months, this suggests a disorder in non-verbal communication. Pointing is a symbol, equivalent to the word, "that", or "I want that". The absence of pointing or inability to use gestures to communicate is often seen in children with autism.

6. Some children may achieve most or all the speech and language milestones at the expected age, but they may speak without communicative intent, e.g. they may recite television advertisements instead of saying "hello" when they meet someone; i.e. they speak to speak, not to communicate with another person. This abnormality is seen especially in autism.
Assessment of a child with Aberrant Language Development:

The child should be investigated for hearing impairment, mental retardation, development language disorder and autism. A general medical evaluation by a paediatrician and formal audiometry testing are all that is required in most cases.

1. Hearing impairment
   The most important condition to diagnose early is hearing impairment. If this is detected late, normal speech may never develop.

2. Mental retardation
   Children with mental retardation commonly come to medical attention for delayed speech. Those with moderate or severe mental retardation will be slow in learning to walk, run, feed and dress themselves as well. However, many preschool children with mild mental retardation may appear to be delayed only in the area of language if no formal IQ testing is done.

3. Developmental language disorder
   Children with developmental language disorder have unexplained difficulties in acquiring language. This condition is also called "specific language impairment". As the name implies, these children do not have hearing loss, neurological disease,
severe environmental deprivation or autism. They differ from children with mental retardation by having normal non-verbal IQ which can be shown by formal IQ testing, by their ability in non-language areas e.g. assembling jigsaw puzzles, figuring out how to operate television sets and the use of gestures to communicate.

4. Autism is a complex disorder with very distinctive features which will be discussed in greater detail later.

5. "Late maturation" of language ability in a normal child can only be diagnosed with confidence when the child eventually develops entirely normal language at a later age. This means that the paediatrician cannot confidently reassure the parents when that child is first seen for delayed speech. However, there are several clues that suggest a good prognosis. If the child is delayed in speaking but has normal comprehension and general intelligence, he or she is more likely to acquire normal language later. If comprehension is impaired, if there is delay in many areas of development including social and visuo-spatial abilities, if expressive vocabulary is severely delayed, the prognosis is poor.

Except for hearing impairment which requires a formal hearing test, assessment for the other four common conditions causing disordered language development can be done by a paediatrician, usually without need for blood tests, electroencephalography) CT scan or MRI. An assessment by a psychologist is helpful but not crucial. Many children will not co-operate for formal IQ testing at this age, especially children with language disorders, mental retardation or autism.

Management of Children with Language Disorders

If the child has a significant hearing impairment, hearing aids and speech and language therapy should be instituted as soon as possible. Even then, many children with severe hearing impairment, if they ever learn to speak, have speech that is harsh, poorly modulated, unpleasant and accompanied by many peculiar squeals and noises of a snorting or grunting kind.

The role of serous otitis media (fluid in the middle ear) on language development is controversial. The current consensus is that it is unlikely to be an important cause of speech and language disorders. If there is no or only mild (less than 40 dB) hearing loss associated with the serous otitis media, operations to drain the fluid will not improve speech or language development.

For children with mental retardation as well as those with developmental language disorder, "speech therapy" is the only treatment available. There is no medication or operation that will help these children comprehend or speak. Whilst the common terminology is "speech therapy", the aim of these programmes is really to teach language, not just how to pronounce words as is implied by the term "speech". I will use the term speech therapy here to indicate both speech and language therapy.
In the past, most forms of speech therapy involved teaching language skills directly by imitation and modeling. The therapist identifies which aspects of the child's language system are impaired and focuses on these in drills that provide opportunities to work selectively on areas of difficulty. The area where this approach is still commonly used is in treating problems in articulation. The aim is to identify the pattern of errors that the child makes, and then to give extensive practice in producing contrasting sounds. Few children less than 5 years old are likely to co-operate with these programmes.

In recent years, there has been a move away from structured programmes, especially when teaching grammatical competence and appropriate language use. One reason was that therapists became disillusioned when they found that children who could produce acceptable language in therapy sessions persisted in using impaired language in more natural situations. Perhaps formal language therapy sessions encouraged children to give correct responses to speech therapists, but do not teach them to use language to communicate needs.

The swing of the pendulum away from structured approaches to language training led some to advocate a policy of general language stimulation, especially where the home background is thought to be disadvantaged. In practice, language stimulation is often interpreted to mean attendance at a nursery, where there is plenty of opportunities to mix with other children. However, a study in Britain has shown that working-class mothers used much more complex language to their children than did nursery teachers, and children used language for complex purposes more often at home than at school. Thus, although a great deal of language is produced in the nursery setting, individual children experience relatively few language interactions with adults. Nurseries can provide plentiful and stimulating opportunities for play and social interaction with peers, but they are noisy places, where the language-impaired child has to compete for adult attention with other children with more sophisticated language skills. In other words, sending children with language disorder (including mental retardation, autism or specific language impairment) to a mainstream nursery will not help their language development. Kindergartens in Singapore follow much more structures curriculums than those in western countries. Often, the basic academic skills of learning to read, write and count start by the first year in kindergarten. This may be suitable for normal children who by the age of 4 years have acquired all the basic language skills necessary for social communication. Children with language disorders will not benefit from this curriculum because they have not even learnt to comprehend and speak adequately and will not learn anything meaningful in the mainstream kindergartens.

**Advice for parents of Singapore children with disordered language development**

Many parents worry that it is the home environment that is causing their child's language problems. They blame themselves for leaving the child to the care of a maid, for exposing the child to multiple languages simultaneously and for not spending enough time teaching the child to speak. There is no evidence that any of these factors
can cause major language difficulties in normal children. It is possible (though not proven), that these risk factors may slow language development in a child who is destined to have language disorder, but the effect is unlikely to be major.

Practical things that parents can do to promote language development are:

1. Talk to the child, using language that is just a little more sophisticated than the child's own level. Do so in a naturalistic setting during everyday activities, e.g. whilst sweeping the floor, say to the child "mummy is sweeping the floor".

2. Encourage all the child's attempts to communicate whether verbal or non-verbal including gestures. Any means of communications is better than no communication.

3. Do not use coercion to "teach" language. Strategies such as withholding a sweet until the child repeats a word are likely to be counterproductive.

4. If family members usually speak very fast (and Singaporeans tend to speak very fast), the parents may need to remind every one to slow down the pace of conversation to give the language impaired child time to formulate utterances. If the child has a comprehension problem, use simple, straightforward language when speaking to him or her.

AUTISM

Definition:

The terminology in this field is very confusing. Terms parents are likely to hear include "pervasive developmental disorders" (PDD), "autistic spectrum behavior" and "Asperger's syndrome".

Pervasive developmental disorders (PDD) are a group of disorders characterised by qualitative abnormalities in reciprocal social interactions and in patterns of communication, and a restricted, stereotyped, repetitive repertoire of interests and activities. These abnormalities are a pervasive feature of the individual's functioning in all situations.

Autism, Asperger's syndrome and a number of other disorders are all included under the term PDD.

Autism is a type of PDD that is defined by: (a) abnormal development which is apparent before the age of 3 years; and (b) abnormality in reciprocal social interaction, communication, restricted interests, and stereotyped, repetitive behavior.
Asperger's syndrome is similar to autism except that there is no retardation in language or in intellectual development.

Autistic spectrum disorder is now frequently used to describe all degrees of the autistic condition. All those with autistic spectrum disorder have the triad of impairment that included difficulty with social interaction, communication and a restricted, stereotyped, repetitive repertoire of interest and activities; but the degree of disability may range from someone who never learns to talk and sits in a corner all day lining up blocks to a highly verbal individual who is able to complete university but still experience considerable difficulties in social interactions.

Etiology of Autism:

Autism can be caused by a variety of conditions affecting brain development occurring before, during or after birth. Examples include fragile X syndrome, tuberous sclerosis and maternal rubella. In many instances, genetic traits appear to be important though the actual genes which are abnormal are often unknown.

Autism is not due to emotional problems or emotional deprivation. It is has nothing to do with the way parents bring up the child.

Epidemiology of Autism:

The autistic spectrum disorder occurs in 1-2 per 1000 population in all countries and all races. Males are affected more frequently than females with a ratio of 3:1.

Clinical Features of Autism:

Of the many disabilities seen in autism, it is the aberrations in social development that are the most handicapping and persistent. Individuals with autism have difficulties in reciprocal social interaction and the ability to form relationships. As infants, some autistic youngsters do not like to be held and do not hold their arms up to be lifted or adjust their bodies when being held, while others are very clingy or indiscriminately cuddly. What these behaviors have in common is a difficulty with the give-and-take of social behavior.

In the preschool years, autistic children can be differentiated from mentally retarded children or children with language impairment by a lack of interest in other children, a limited range of facial expression and unusual eye contact. By the time they are 4 or 5 years old, many autistic children are distressed by separation from their parents. However, they often do not greet their parents upon reunion or follow them about and wanting to be part of the family. They do not attempt to share their own enjoyment, such as getting their parents to come when they have something interesting or when a favourite television character appears. However, it is important to note that most autistic children do not show deficits in all of these areas; many children have one or
more behaviors for brief periods of time or in particular situations that seem surprisingly social.

Although autistic children have delayed language development, the most striking feature is the deviant quality of the communication. Some children understand little or no language and never learn to speak. Even communication using gestures is impaired and many autistic children do not point to indicate what they want.

When speech develops, it is not used for social communication, and the child does not carry on to-and-fro conversation. Some autistic children are talkative but their speech is repetitious or a monologue where they go on talking on a subject which they are obsessed with. Some autistic children although they are able to speak, do so only to ask for things.

Other special characteristics of the language of autistic children include reversing pronouns (e.g. referring to themselves as "you" or "he"), delayed echolalia or stereotypical speech borrowed from other people or the media (e.g. repeating commercials or phrases from their teacher out of context), abnormalities of pitch, stress, rhythm and intonation (e.g. talking in a monotone or with sing-song intonation).

Autistic children have restricted and repetitive interests and behaviors. This becomes noticeable in older preschool autistic children when they become preoccupied by a specific part of a toy, such as spinning the wheels on a toy car. Some autistic individuals may carry out stereotyped, repetitive movements, particularly of the hands and fingers. Some autistic children injure themselves deliberately, for instance by biting their wrists, banging their heads or slapping themselves. Autistic children may become upset if daily routines are not followed to minute detail (e.g. sandwiches not cut on the diagonal) or if trivial aspects of the environment are changed, such as moving the furniture in the room. Unusual reactions to sounds or sights, such as extreme agitation when someone sings a particular song occur in some autistic individuals.

Approximately three-quarters of individual's with autism are also mentally retarded. Even those with normal IQ often have learning disabilities. A significant minority of autistic individuals has unusual cognitive skills (special talents) as well as deficits earning them the title of idiot savant.

Management of children with Autistic Spectrum Disorder:

There is no cure for autism. The most important intervention in autism is early and intensive special education that addresses both behavioral and communication disorders. The effective approaches use a highly structured environment with intensive individual instruction and a high teacher-to-student ratio.

Education: Because of the wide spectrum of disabilities seen in autistic individuals, a
range of educational provision is required. One question concerns integration or mainstreaming and the extent to which autistic children should be placed in self-contained classrooms specifically for autistic children, self-contained classrooms for more broadly defined groups (e.g. learning disabilities, mental retardation) or attend normal schools with additional specialist support. Few autistic children are able to cope behaviourally in the mainstream with no extra support, and of those who do, it is not clear that they are benefitting academically from the exposure. On the other hand, there are social benefits to being surrounded by non-handicapped children. Much seems to depend on whether the programme is well structured, positive in attitude and prepared to cope with the individual needs of the children. For many children with autism, mainstream education is both appropriate and desirable. For others, however, such an environment can be terrifying and confusing, where things happen at random and in unexpected ways. This leads to distress for the child and disruption for the school. Higher-functioning children with autism, whose social difficulties make them vulnerable to bullying or abuse, need support and guidance to prevent them from becoming increasingly isolated in the mainstream environment.

**Behavioral therapy:** This is often effective in dealing with tantrums and destructive behavior as well as teaching self-help skills.

**Medication:** There are no drugs that can cure autism, and many patients do not require medication. However, certain drugs that target specific symptoms such as repetitive behavior, self-injurious behavior and aggression may help substantially. The patient should be referred to a child psychiatrist or a paediatric neurologist as general paediatricians are not usually familiar with these problems and the relevant drugs.

**Unconventional therapy:** Many desperate parents turn to unconventional and often expensive, dietary, medical and other therapies that, despite being without proven efficacy, are widely used. Any therapy which claims to dramatically improve or cure autism must be viewed with skepticism.

**Prognosis of patients with Autistic Spectrum Disorder:**

The best predictors of long-term outcome are IQ and degree of language impairment. However, even autistic individuals who are of normal intelligence with minimal language impairment, and have a good level of social adjustment in adult life never achieve complete normality. They may be gainfully employed, earning enough to support themselves, but most will require a degree of shelter in their work and support in their living arrangements. The majority of autistic individuals who are retarded or have moderate or severe language impairment will remain severely handicapped and dependent on others for help in meeting their day-to-day needs throughout life.