

CASE STUDY-2

Spastic Triplegia – A Case Study

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Key Words: **MFDT, Knock Knee, Motor Development**

Ayushi had severe Spastic Triplegia with visual problem. She was very much delayed in gross motor and fine motor milestones. Her age was 2.3 years, when she came in for treatment.

According to MFDT (Munich Functional Developmental Diagnosis), her pre-treatment status was as following.

Gross Motor Functions:

1. Prone Development: She could lift head up to 45 degree, self-supported on both lower arms (hands tightly fist) which kept her at the age of 4 months.
2. Sitting: While being pulled up to sit up to 45 degrees, she could raise her head but used to keep her legs tightly straight which kept her at the age of 4 months.
3. Standing: She had severe equines at the ankle, severe extension at the knee (knock knee) and flexion at the hip. In MFDT we could keep her at 4-5 months but with very abnormal appearance.

Hand Functions:

She could not stretch her hand towards the toy fully. Left upper limb was involved so elbow remained tightly flexed and hand fist on left side which kept her at 5 months of age.

Perception:

As mentioned in diagnosis she had a squint and continuous eye-ball movement in her left eye. It was very difficult for her to focus. She used to try to turn her head towards a fallen object with minimum sound. This kept her at the age of 6 months.

Speech:

She was around 4 months on this scale.

Social Function:

She scored maximum on social function, i.e. around 11-12 months. She used to exhibit the efforts and give object to a familiar person on request.

With total observation we found that she was much more delayed on her motor development score than her mental development.

As she was young in age and her Mother was willing to co-operate fully, we started her treatment on a regular basis. Each session was of almost 40-45 minutes.

Line of Treatment:

Though Ayushi was 2 years + in her age, on account of her motor development, we started with Development Stimulation Programme i.e. mainly positioning her in correct posture with the help of pillows and Therapist's hand

support. Lots and lots of visual and auditory stimulations with Toys were added.

We made extensive use of Medicine Ball and balanced board for getting the right reactions from her.

As soon as she started using her hand for protection and positioning, we started keeping her in weight bearing positions. Lots of weight shifting exercises helped the child for starting with locomotion.

Along with the above said treatment strategies, she was given normal stretching exercises for maintaining the range of motions. Strengthening exercises for opposite group of muscles were done for keeping her ready for weight bearing positions.

Though now days the concept is changing, we still believe that good control over the spinal muscles and strong abdominal muscles are needed before we could make such a child stand. Hence, we gave her lots of exercises for spinal and abdominal muscles.

External Support:

Earlier she was given night splints for her ankles. And now they are being replaced by full (KFO) length support with fixed ankle for making her stand.

Results:

At the age of 2.9 years today Ayushi is on MFDT scale as below.

Motor Development:

- **Crawling:** She can sit from prone position by hip bending and trunk turning. She has started crawling on hands and knees with cross-coordination. So, she is at 10-11 months on the scale.

- **Sitting:** She can sit without support for 3-5 minutes. Sits up from supine by holding onto some furniture with very little support. She is at 10 months on the scale.

Fine Motor:

Her hand function is at around 10 months on scale. She picks up small objects with her thumb and index finger. She also tries to move toy car to and fro.

Perception:

She tries to touch eyes, nose etc details of any person who comes close to her with Index finger. Also pulls a toy car by string. This puts her at the age of 11-12 months.

Speech:

In this she has shown drastic change. She is at the age of 25-26 months. She can speak two words sentences in child language

Social:

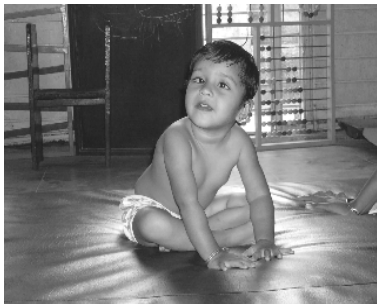
She has started imitating household activities which puts her at the age of 16-17 months. In her posture she has improved very well. Her lordosis in sitting position has completely gone with strengthening of spinal muscles.

In ankle, tightness has reduced to a large extent. She can comfortably sit in squatting position. She can stand between parallel bars with her splints. Her left upper limb can fully stretch during an activity and she is able to use her fingers while holding an object.

Overall Functional Improvement:

Functionally she has improved drastically compared to her condition when she had come to us for treatment.

- She can do crawling with co-ordination for small distances.
- She comes up in kneeling position with minimum support and can do kneel walking with some object / walker.
- She can sit without support for a while during her activities.
- While balancing and playing she uses both her upper limbs comfortably.



Future Plan:

- More work needs to be done to improve her sitting balance.
- She needs strengthening of hip extensors and hamstrings at knee joint to improve her legs positioning while standing.
- Long term goal is to make her walk with minimum support

