Should we treat Metatarsus Adductus?

Nearly 4,2.100,0010 b,abies arre born annually in the United States. Approximately 3.2% of them are born with metatarsus adductus (MTA) ( wide p1rospectiv1e study 1 ). Two thirds of these babies are affected bilaterally, with various severity. We may therefore estimate that 1.35,000 babie.s are born with MTA every ye,ar in the US.

MMTA is the most common foot deformity in newborns. Most authors do not differentiate between the prevalence of clubfoot and MTA, and mention a value of one-two per thousand live births, which is the prevalence of clubfoot, and is very far from the prevalence of MTA. A significant number of these babies are not diagnosed properly in the first months of life, and they miss out on the required follow-up during the most important period of their life for the treatment of resistant or severe cases of MTA. Any case of MTA should be refe rred to orthopaedi,atricians 1 or pa, ediatric physiothe rapi.sts torr ,accurate follow-up and appropriate therapy.

There is no doubt that if the infant care providers were aware of the potentially se·vere ramifications of missing MTA cases, and losing the opportunity to effectively treat the problem in the first year of Iife, we would not ha·ve to deal with the significant number of neglected and complicated resistant cases that sometimes require .surgical intervention. There is inconclusive evidence regarding the long-term effect of met,atarsus adductus on the adult toot [15].

Some authors propose that if metatarsus adductus persists into adulthood, it can lead to the development of of hallux valgus, skewfoot or hammer toes, in-toeing, increased medial tibial torsi1on, fifth metatarsal stress fractures, difficulty fitting into sho1es, and can contribute to increased falling or trippin,g later in life [7, 12 , 16,17,18]. There is widespread consensus that early treatment of MTA is essential for successful results and treatment is advised ·to commence prior to nine months of age. The sweeping conclu sion that most cases of MTA manage on their own is very far from the clinical reality, and is considered a compromising and unreasonable conclusion. The natural history and p,rogno.sis of MTA depends on the severity of the deformity, and sh1ould be documente1d and classified for each MTA case during the initial consultation. Guidance and education of the staff in the maternity ward and newborn nursery, ie. Paediatricians, nurses and other caregivers, seems essential, so that they be trained to identify this most common deformity in infants’ feet.

Documentation should also include any 1rotation deformity of the lower extremity, any in-toeing or pigeon toe cases.

MTA has three forms:

!Mild MTA constitutes the majority of cases. The heel bisector line runs between the third and fourth toes, and the deformity is flexible. 80% of these cases will tend to self-reduce during the baby’s first year.

30% of MTA cases are of moderate severity. The heel bisector line runs between the fourth and fifth toes; the foot is semi-rigid. 20% may self-reduce during the first 12 months.

Severe cases make up the remaining 10% of cases. The heel bisector line is at the fifth toe or beyond; the foot is rigid. A skin crease in noted at the midfoot on the plantar surface. This level of severity has no possibility for self-recovery.

Continuous follow-up of tlhese babies in their firrst months appears critical, in order to d,ecide about treatment, keeping in mind the window of opportunity for optimal treatment before the age of nine month.s.

The biggest dilemma is whether to “wait and see”, and try to convince the parents to accept the deformity as a temporary problem, forget treatment “for now” and lose the opportunity for optimum treatment, or not to take any chance in the resistant cases, which had shown no improvement during follow-ups leading up to the age of nine months.

For nearly 200 years, the treatment of choice for resistant metatarsus adductus has been serial castings. Since the treatment should be initiated during the first months of the baby’s life, and the complications and dangers of serial castings may be serious, some attempts have been made in the past to supplement the treatment with various orthotic devices without significant success. So, method of casting continued to be considered as the ideal treatment, advi.sed for severe cases of MTA. Unfortunately. most of the mild and moderate cases are still considered of little to no interest, and are lost to follow-up. That is a reason for a great number of neglected cases of MTA being referred to us for treatment.

Although according to virtually all reports and studies, treatment of MTA via seriaI casting after the age of 10 months is not successful, there are reports of many neglected cases beginning serial ca.sting after the age of 12 months, despite the high rate of recurrence.

How can we explain this use of casting technique after the age of one year, and even two years, of age?

Are there any clinical trials supporting serial casting after the age of 12 months? Are there any updated qualified prospective studies regarding the prevalence of MTA in newborns? l.s there any acceptable screening protocol for the identification and evaluation of foot deformities in newborns?

Is any qualified objective study for long term follow up of MTA in adults and old a1ges?

It appears that, currently, there is no acceptable protocol for screening and treatment of the most common congenital foot deformity in newborns.

I respectfully suggest that the Pediatric Orthopaedic Society of North America (POSNA), exercise its authority and influence in order to initiate research, guidance and the publication of regulations and protocol for treatment of MTA, which has become a significant public health issue, due an apparent and widespread disregard and indifference in diagnosing and dealing with the problem in a timely manner.