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Editorial

Addressing Gaps in Management of Down Syndrome (Trisomy 21)

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Down Syndrome is the most common and best known chromosomal disorder with an incidence of 1:600 live births. It is a disorder of the whole body involving abnormalities in physical, mental development, accompanying immune weakness and hormonal dysfunction.

Prenatal diagnosis of a Trisomy 21 fetus or newborn can now be confirmed as early as 9 weeks. Currently a non-invasive prenatal test, cell free fetal DNA test from maternal blood sample with a sensitivity of 99% is now available to screen for this condition [1]. Congenital cardiac, gastrointestinal defects may be suspected through high resolution ultrasound and confirmed after birth. Cardiac, gastrointestinal anomalies and a host of other related problems which include hypothyroidism, infections and hematological abnormalities can be satisfactorily treated in the majority of cases. The overall outlook for individuals with Down syndrome has dramatically improved. Many adult patients are healthier and better integrated into society. Life expectancy has improved from 25 years in 1983 to 60 years or higher today. But gaps still exist.

Is prevention of Down syndrome births possible? Supplementation of essential nutrients such as folate, vitamin B6, vitamin C, vitamin E, selenium, and zinc, as well as alpha-lipoic acid and carnosine Acetyl-L-carnitine, aminoguanidine, cysteine and N-acetylcysteine given before pregnancy have been studied but the answer is still inconclusive [2].

The ever increasing delay in development with age in these children leading to physical and mental handicap remains unsolved in conventional medicine. But can the ever increasing delay be mitigated/eliminated? Early intervention program and the use of various drugs, high doses of vitamins and minerals have not been able to mitigate the cognitive decline with age.

Current advances in gene and stem cell technology have yet to produce effective therapeutic solutions to achieve this. But in reality for almost a century, many physicians have treated Down syndrome infants and children with good results using cells from fetuses and newborn animals. This form of treatment which has been described as one of the safest forms of biotherapy has also been used to treat other chromosomal and genetic medical conditions with positive outcome. One only needs to go through the literature with an open mind to appreciate the voluminous research work done in the last century which included many ground breaking works of earlier scientists [3,4]. Fetal precursor stem cell xenotransplants of various parts of the brain derived from fetuses of animal origin (rabbits, cattle, sheep etc.) have been shown to be effective in eliminating/minimising the ever increasing delay in psychomotor development in Down syndrome infants and children. When this is given to complement the current interventional therapy program, nutrient supplementation and correction of sensory defects, the cognitive delay with advancing age appears to be mitigated and even eliminated [5]. More fundamental and applied research on this form of treatment which has been largely ignored should be carried out to demonstrate its effectiveness, safety and reproducibility not only for Down Syndrome but also for a wide range of medical conditions untreatable in conventional medicine as described in the published literature.

With effective treatment therapeutic nihilism should be avoided. Parents may move away from the option of abortion for prenatally diagnosed Down syndrome pregnancies. When families accept the Creator's gift of this special child, these Down Syndrome children will give a lot of joy and eternal reward to the parents and families. A treatment protocol effective in eliminating the ever increasing delay in the development of these children will enable them to grow to become independent people and even secure employment thereby make a contribution to society.

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