

AYURVEDIC MANAGEMENT OF DOWN'S SYNDROME

Dr. M. Sundaravadana*¹

¹Associate Professor, Department of Koumarabhruthyam, Sri Adhishiva Sadguru Alisaheb
Shivaaryula College, Gunthakal, A.P, India.

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*Corresponding Author

Dr. M. Sundaravadana

Associate Professor,

Department of

Koumarabhruthyam, Sri

Adhishiva Sadguru Alisaheb

Shivaaryula College,

Gunthakal, A.P, India.

ABSTRACT

This is one of the most common well characterized, chromosomal syndrome. It causes mental retardation and a spectrum of somatic abnormalities including characteristic facial features. The incidence of Down syndrome(DS) is 1 in700 live births. About 95% of individuals with DS have three copies of chromosome 21 (Trisomy 21: 46 XY/XX + 21). About 4 % have an extra chromosome 21 that is not free but may be attached to chromosome 14(translocation DS:46, XY/XX, t 14:21). About 1% of DS cases exhibit mosaicism, where in both normal and trisomic cell lines are present in the same individual.Since there is no cure for DS supportive management, prevention & treatment of complications, counselling, physio therapy & special education are the modalities of treatments as per moden medicine. Along with this treatment modalities Ayurveda management also makes child life better through *Samana* & *Sodhana* chikistha. According to Ayurveda genetic disorders are may be due to the *Beeja*,

Beejabhaga, *Beejabhaga avayava dusti*. So understanding the dosha involvement, clinical presentation complications and correlates with Ayurveda treatment principles is the main aim of this study.

KEYWORDS: Down syndrome(DS), *Beeja Dusti*, Ayurveda management.

INTRODUCTION

This is the most common chromosomal disorder occurring with a frequency of 1:800 to 1:1000 newborns. Chromosome number 21 is present in triplicate, the origin of the extra chromosome 21 being either meternal or peternal.^[1] In India many infants with genetic disorders are born every year, almost half a million with malformations and 21,000 with

Down syndrome.^[2] In most cases the extra chromosome is from the mother. Down syndrome occurs more often in offspring of mothers conceiving at older age. This is attributed to the exposure of the maternal oocyte to harmful environmental influences for a longer period since graffian follicles are present in the female reproductive life.^[3]

AIMS AND OBJECTIVES

1. Understanding the concept of Down syndrome as per Ayurveda
2. Modern and Ayurvedic management of Down syndrome.

MATERIAL AND METHODS

This study is based on the literature of the relevant Ayurvedic Original texts, necessary and valid interpretations and analysis made by different scholars.

Management of Down syndrome as per modern medicine^[4]

Since there is no cure for down's syndrome, supportive management, prevention & treatment of complications, counselling, phisioththerapy & special education are the modalities of treatment used.

Parental counselling

The parents should be informed about the:

- Diagnosis: The genetic nature of Down's syndrome & its natural history
- Prognosis: Not a life threatening disorder, but one which would require continued follow up&special education
- Occurance rate in future pregnancies(about 1%)
- Need for co-operation&follow up
- Treatment of complications

Nutritional management

Good, healthy diet should be provided. At the same time, care should be taken to avoid high-calorie junk food as this may lead to obesity with concomittant problems.

Treatment of complications

- Treatment of respiratory tract infections
- Treatment of seizures etc

Miscellaneous

- Vision & Hearing Assessment : yearly
- Physiotherapy
- Speech therapy
- Special education

AYURVEDIC MANAGEMENT**1. Prevention of Genetic disorders**

Normalcy of *Vata* is necessary in preconceptional stage, during pregnancy and to procure a healthy baby. Every stage of pregnancy means gamatogenesis, fertilization, cell division, organogenesis and establishment of higher psychological and cognitive abilities is maintained by *Vata* and any vitiation in these stages may lead to *garbha vikrithi*.^[5]

The word *beeja* implies male or female gametes, *beejabhaga* indicates that part of the *beeja*, may be compared with chromosome defect. *beejabhaga avayava* indicates again, sub part of *beejabhaga* may be compared with gene defect.

Role of *Garbadhana* *vayas*

Early age or very late age conception may lead to unhealthy or defective child birth. It has been mentioned that very young or old women should not be impregnated.^[6] Modern genetic studies also explained the correlation between advanced maternal age and predisposition to genetic syndromes.

Role of *atulya gotriya vivaha*

Concept of *atulya gotriya* means which prohibit the marriage of same *gotra*(clan). It have been described in ayurvedic classics as essential measure to prevent genetic disorders. Modern medicine also accepts that consanguinous marriages couple having increase chance of genetic disorders& congenital anomalies.^[7]

Role of *Garbhadhana purva samyoga vidhi*

Pre conceptional care is the care taken by the women before achieving pregnancy. In Ayurveda following *Rajaswala niyamas*(Rules of menstruating woman), use of *Garbasthapana* drugs, *pumsavana vidhi*, *Sodhana* before *Garbhadhana vidhi* etc come under pre conceptional care. Failure to following *Rajaswala niyamas* which leads to aggravation of *vata dosha* may affect the *beeja*. By following *Rajaswala niyamas* decreases the chance of

vata vitiation thus we can prevent genetic disorders. Use of *Garbhasthapana* drugs prevents Abortions and IUGR. *Pumsavana vidhi* helps in getting good progeny.

Role of Garbhadhana vidhi^[8]

In Ayurveda specific *Ahara*(Diet) and *Vihara*(mode of life) mentioned to the couple who are going to plan healthy progeny. The male should consume shali rice with *Ghrita*(ghee) and milk. *Tila taila* and *Masha* (Black gram) should consume by female during the preconception phase. Black gram which included in the pre conceptional diet is arich source of folic acid, protiens and fibers. Thus prevent nural tube defects.

The couple should undergo *Shodhana* therapy with include *purvakarma* (*snehana* and *swedanam*), *pradhana karma* *Vamana*, *Virechana*, *Asthapana*& *Anuvasana vasti*), *samsarjana karma* (Diet regimen). These would help in the removal of *doshas* and also helps keep the hormones at normal level.

Role of Garbha masanumasika vidhi: (Monthly dietary regimen or Garbhini paricharya)^[9]

Ante natal care is very well explained in Ayurveda by following monthwise diet regimen along with mode of life by pregnant woman. After successful conception, *garbhini* diet with *Madhura*, *Sheetala ahara* etc as per month which fulfills the needs of embryo,that reduces the risk of several congenital malformations.

Role of avoiding Garbhopaghatakara bhavas^[10]

Garbhopaghatakara bhavas means the substances which is harmful to the fetus should avoid by pregnant lady which consists both *Ahara* and *Vihara* (diet and mode of life) Both *Acharya Charaka* and *susrutha* have mentioned the avoidance of *garbhopaghathakara bhavas* during pregnancy. These can be correlated with teratogenous, which is the use of harmful radiation or chemicals/drugs, toxins, alcohol etc that cause abnormal develepment of the embryo. For getting healthy progeny knowledge of *garbhopaghatakara bhavas* plays important role by reduceing the chances of abortions, genetic mutations, IUGR, Congenital malformations etc.

AYURVEDIC TREATMENT PROCEDURES

Eventhough there is no cure for Down syndrome, understanding the *dosha* involvement, clinical presentation, complications we can made their life better through ayurvedic medications & *panchakama* treatments. Here main *dosha* involvement is *Vata*, So *vata hara chikistha* is principle treatment. According to the age of child drug dosage should be decided.

Samana chikistha

Vata hara oushadhis like *Triphala guggulu* etc, for Low IQ - *medhya oushadhis* like *saraswatharistam*, *Bramhi ghrutham* etc, for delayed speech - *vacha churnam* etc,

For prevention of cardiac disorders -*Hrudhya drugs*, *Arjuna* etc

For Recurrent Respiratory infections – *swasahara*, *kasahara oushadhis* like *swasa kutara ras*, *Talisadhi churnam* etc

For hypotonia – *deepana*, *pachana* drugs followed by *Brimhana chikistha*

Shodhana chikistha

Abhyangam and Sastika Sali pinda swedanam

Yapana vasti

DISCUSSION

Whenever there is a defect occurring in the *beejabhaga* indicating that the particular organ which is formed from that particular *beejabhaga* will also become *vikruti*(abnormal).^[11]

Down syndrome may be correlated with *beeja bhaga vikrithi* as per Ayurveda. Normalcy of *Vata* plays main role in every stage of pregnancy, hence vitiation of *vata* leads to *garbha vikrithis*.

Whatever preventive principles explained in Ayurveda should followed by each couple to get rid of these types of genetic disorders. If at all it occurs *Vata hara chikitha* plays main role in management aspects.

CONCLUSION

Ayurveda science has a depth knowledge about preventive aspects of various genetic disorders.

As we know very well prevention is better than cure. In Down syndrome occurs mainly due to *vata* vitiation in the *Beeja* So by understanding the *dosha* involvement, clinical presentation and its complications, make attempt to management of down syndrome as per Ayurveda.

So awareness of the preventive aspects and also knowledge of getting good progeny made change in today's busy modern life. Main thing what I want to express is care should be started from preconception which reduces the chances of the occurrence ratio of genetic disorders.

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