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RESEARCH ARTICLE

"A CASE STUDY ON MADHUMEHA W.S.R TO TYPE 2 DIABETES MELLITUS TREATED WITH CHANDRA KALA GUDIKA"

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Abstract

The rising burden of Type 2 Diabetes which has occurred with modernization can be understood in the context of epidemiological transition. Irregular food habits, lack off exercise, stress and strains are some causative factors. Madhumeha leads to be a cause for blindness, renal failure etc., if it is not controlled. Rapid socio economic development and coca colonization have resulted in a life style transition from traditional to modern. As Madhumeha in modern science is compared with diabetes mellitus.

Aims of Study-The present study was carried out with an objective to compare the efficacy of Chandra kala gudika in the management of Madhumeha w.s.r. to type 2 Diabetes Mellitus.

Materials and Methods- The present study was Open Randomised clinical study, on 30 patients of either sex having symptoms of Madhumeha. These patients were subjective with Chandra kala gudika 500mg Bd.

Result- Overall response was excellent improvement in 30%, marked improvement in 60% and mild improvement in 10% of patients.

Conclusion- The Chandra kala gudika has a significant effect on both subjective and objective parameters. No adverse drugs effects were observed at the end of study.

Introduction:-

Diabetes described as Prameha in Ayurvedic classics, where as Diabetes Mellitus is described as Madhumeha. Etiological factors of Prameha are Madhura , Amla, Lavana rasa dominant diet mentioned as "Gramya Udaka Aunupa Rasa , Payansi , Dadhini" and life style such as "Aasya Sukham Swapna Sukham"[2] are similar to the causes quoted as over eating, eating of large amount of carbohydrates mainly sugars rich substances, dairy products, practicing sedentary life style, overweight in modern medical science literature. Diabetes Mellitus is major health problem in 21st century in year 2000 India isone of the five countries which have highest sufferers

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of Diabetes Mellitus, hence India is declared as' Capital Of Diabetes' now. In spite of advanced medical researches, it is still burning issue that 50% of Diabetic patient are remaining undiagnosed. World Health Organization (WHO) intended that India have 35 million Diabetic populations, which will be 57.2 million by year 2025 & 79.4 million by the year 2030. In world approximately 177.7 million people are diabetic which will be double by year 2025 and this calculation definitely will rise on. Changing diet habits, life style change, unbalanced diet ,excess fast food, lack of exercise are the reasons behind developmentof growth of diabetes & it's root is in urbanization.

Ayurveda treats patient as whole and never treats disease but diseased one. So here we are putting step forward to find out safe and effective drug to control diabetes with having no side effect.

Samprapti of Prameha involves all the three Doshas and ten Dushyas i.e., Rasa , Rakta , Mamsa , Meda , Majja , Vasa , Shukra , Oja , Lasika and Kleda , but vitiation of Kapha Dosha and Meda Dhatu are the major culprits of this disease. Therefore, a view has been advanced that drugs of Ayurveda may have altogether different mode of actionthan insulin. It is just possible that by correcting lipid disturbance, they might be correcting the glucose disturbance. This concept may completely modify the present method of treatment prevalent in modern medicine. Though Prameha is Tridoshaja vyadhi , Acharyas have mainly emphasized on vitiation of Kapha Dosha and also emphasized on Medovriddhi and Medodhatwagnimandya. So for disintegrating the Samprapti one should have such a formulation, which has not only Antihyperglycemic / Hypoglycemic effect but also working at the level of Dhatwagni and counteracting Kapha Dosha and Medodhatu for the management.

AIMS AND OBJECTIVES- To evaluate the efficacy of Chandra Kala Gudika in the management of Madhumeha.

Materials And Methods:-

Study design-

Open Randomized trail

Source of data-

30 Patients of Madhumeha were selected for study from O.P.D. / I.P.D. unit of P.G department of Kayachikitsa, Uttarakhand Ayurveda University Rishikul Campus, Haridwar.

Sample size-

30

Duration of study-

90 days

Slection of drug-

Chandra Kala Gudika.

Dose-

5oomg, twice a day with Luke warm water 30 minute before meal.

Ingredients

Table 1:- Showing the ingredients of nyagrodhadi churna.

.No	Drug name	Latin name	Family	Part used	art
	Ela	Elettaria cardamomum	Zingiberaceae	Beeja	
	Kapura	Cinnamomum camphor	Lauraceae	Niryas	
	Shilajit			Niryas	
	A	Embilica	Eu	Phala	

	malaki	officinalis	phorbiaceae		
	Jatiphala	Myristica fragrans	Myristicaceae	Beejha	
	Nagkeshar	Mesua ferra	Guttiferae	Pukeshar	
	Shalmali	Salmalia malabarica	Bombacaceae	Moola, Pushpa, Niryas(mocharas)	
	Ras-sindur	Red sulphide of mercury			
	Abhrak bhasm	K(Mg2Fe)3AlSiO10(F,OH)2			
0	Vang bhasm	Sno2			
1	Loha bhasm	Fe			

Inclusion Criteria

1. Fasting blood glucose level>110mg/dl <250mg/dl.
2. Post prandial blood sugar level>140mg/dl <350mg/dl.
3. Patients between the age group of 30-60 years.
4. Chronicity - max. upto 5 years.

Exclusion Criteria

1. Patients of Type1 Diabetes Mellitus.
2. Age below 30 years and above 60 year.
3. Blood sugar- fasting blood sugar level>250mg/dl.
4. Post Prandial blood sugar level>350mg/dl.
5. HbA1c not more than 10%
6. Patients having complications.
7. Patients suffering from any serious medical or surgical illness.
8. Chronicity more than 5 year.

Criteria For Withdrawal

1. Personal matters
2. Aggravation of complaints
3. Inter current illness
4. LAMA (patient leave against medical advice)

Subjective:

The assessment of drug trial will be done on the basis of improvement in the symptoms such as-

1. Prabhoot mutrata
2. Avilmutrata
3. Ati-kshudha
4. Pipasa-adhikya
5. Karpada-daha
6. Daurbalya

Objective:-

The objective assessment will be done on the basis of changes in clinical findings, and following **laboratory** parameters.

1. Blood Sugar- Fasting
2. Blood Sugar- Post Prandial
3. Hb A1c

4. Urine Sugar
5. BMI

Investigations:-
1. Blood sugar fasting and post prandial
2. HbA1c
3. Hb% , T.L.C, D.L.C, E.S.R
4. SGOT
5. SGPT
6. Serum creatinine
7. Serum cholesterol
8. Urine sugar
9. Urine examination - routine examination
10. Microscopic examination

Statistical Analysis-
1. For comparison of subjective criteria with in a group **Wilcoxon's Signed rank test** and for inter- group comparison **Mann- Whitney test** will be applied.
2. For objective criteria with in a group before and after treatment **paired t- test** will be applied.

Following formula will be used to specifically quantify the percentage of improvement in each patient **= (BT-AT) *100/BT**.

Finally result were incorporated in terms of probability (P)
1. **P> 0.05 Insignificant**
2. **P<0.01 Significant**
3. **P< 0.05 Significant**
4. **P< 0.001 Highly Significant**

Observations:-

Table 1.1:- Shows status of 20 patients of Madhumeha.

Drug	Total registered	Completed
Chandra kala gudika	30	30

Table 1.2:- Shows the effect of Chandra Kala Gudika in Subjective parametres.

Subjective parameter	Median		Wilcoxon Signed Rank W	P - Value	Effect	Result
	T	T				
Prabhut Mutrata (Increased frequency of urine)			-351	< 0.001	4.44%	Highly Significant
Avil mutrata (Turbidity in urine)			-276	< 0.001	8.57%	Highly Significant
Ati Kshudha (Polyphagia)			-45	0 .004	7.143%	Significant
Pipasa-Adhikya (Polydipsia)			-77	0 .005	3.07%	Significant
Karpada-Daha			-300	< 0.001	5.00%	Highly significant

Daurbalya			-325	< 0.001	7.14%	Highly significant

Table 1.3:- Shows the effect of Chandra kala gudika in Objective parametres.

Objective Parameters		**Mean**		**SD**	**SE**	**t- value**	**p- value**	**Result**
ESR	**BT**	79.427	0	7.024	.585	.885	0.001	Highly Significant
	AT	40.433	0	5.449	.472			
SPP	**BT**	61.873	0	6.242	2.094	.326	0.001	Highly Significant
	AT	10.200	0	7.441	0.487			
URINE SUGAR	**BT**	.034	0	.017	.189	.985	.006	Significant
	AT	.793	0	.819	.152			
EMI	**BT**	7.680	0	.227	.589	.565	.001	Significant
	AT	7.487	0	.229	.590			
HbA1c	**BT**	.887	0	.178	.215	5.068	0.001	Highly Significant
	AT	.060	0	.112	.203			

Table 1.3:- Shows the effect of Chandra Kala Gudika in Biochemical parametres.

BIOCHEMICAL PARAMETERS		**Mean**		**SD**	**SE**	**t-Value**	**p-Value**	**Result**
HB	T	2.573	0	.702	.311	.382	.177	Non-Significant
	T	2.410	30	.427	.261			
TLC	T	933.333	0	196.931	18.529	.593	0.558	Non-Significant
	T	876.333	0	086.775	98.417			
NEUTROPHILLS	T	6.967	0	.145	.122	.412	.169	Non-Significant
	T	6.367	0	.524	.009			
LYMPHOCYTE	T		8			.174	0.05	Non-Significant
	T		8					
EOSINOPHIL	T	.067	0	.794	.328	.397	.173	Non-Significant

	T	.567	0	.050	.374			gnificant
MONOCYTE	T	.800	0	.669	.305	.551	.16	Non-Significant
	T	5.767	0	.357	.248			
BASOPHIL	T	.167	0	.791	.145	.724	0.475	Non-Significant
	T	.000	0	.743	0.136			
ESR	T	6.733	0	0.326	.885	.828	.078	Non-Significant
	T	5.867	0	9.092	.660			
S.CREATININE	T	.833	0	.185	.0338	.430	.163	Non-Significant
	T	.815	0	.155	.0283			
	T	75.343	0	1.390	.557	.584	.124	Non-Significant
S.CHOLESTROL	T	71.800	0	5.422	.467			
	T	8.380	0	.327	.703			
SGOT	T	9.740	0	.101	.662	.480	.150	Non-Significant
	T	1.847	0	5.336	.626			
SGPT			0	9.962	.645	.872	.390	Non-Significant
	T	0.620						

Result:-

Statistically **Highly Significant** result was obtained in subjective parameters i.e Prabhuta mutrata, Avila mutrata, Karpada-Daha and Daurbalaya while **Significant** result found in Pipasa-adhikya and Atikshudha.

Statistically **Highly Significant** result was obtained in **Objective parameters** i.e blood sugar fasting and post parandial sugar levels and HbA1c while **Significant** result was found in URINE SUGAR, B.M.I.

Discussion:-

Overall response was excellent improvement in 30%, marked improvement in 60% and mild improvement in 10% of patients.

Probable Mode Of Action Of Chandra Kala Gudika

Most of the Dravya have the properties of Kapha-Vatahara, **Deepana, Pachana, Dahaprashamana, Rasayana**, **Pramehaghna, Yogavahi**, , **Lekhana, Sapthdhatupushti, Deepana, Pachana,** and Tridoshsamaka. So in Chandra Kala Gudika, Tikta- Katu-Kashaya Rasa, Laghu-Ruksha, Tikshna Guna, Ushna Virya so most of the dravya have Kapha-Vatahara, Kapha-Pittahara, Vata-Pittasamaka andTridoshsamaka properties.

1. Terpinene, Sabinene chemical constituent of **Ela** work on insulin secretion, insulin resistance through increasing the amount of SIRT1, as well as controlling glucose metabolism by inhibiting α-glucosidase and α-amylase. Various clinical studies have shown its antidiabetic effect.
2. **Kapura** having Kapha-pitta Shamaka properties, Due to its Deepana, Pachana Chedana, Lekhana, Medohara properties it help to correct the srotodushti.
3. **Shilajit** contain humic acid and fulvic acid which improve quality of body tissues increases the number of β-cells of pancreas .i.e. pancreatotrophic action, which result in better sensitivity of pancreatic β-cells with secretion of large quantity of insulin in response to hyperglycemia.
4. **Amalaki** -Antioxidant activity of Amalaki is associated with presence of Vit-C, it plays a role in reducing oxidative stress and improving glucose metabolism . Phenolic phytochemicals are natural inhibitor of α-amylase and α-glycosidase. It contain CHROMIUM that make the body more responsive to insulin.
5. **Jatiphala-** The ETHANOL extract of this improves hyperglycemia and abnormal lipid metabolism through α-amylase inhibitory activity.
6. **Nagkeshar- Deepana, Pachana, Trishnanighrahana**. Insulinotropic activity of methanolic extract of mesua ferra.
7. **Shalmali-** the presence of alkaloid, glycoside, tannins, and flavonoids put down glucose level significantly by inhibiting **α-glucosidase enzyme** and decrease glucose transport through the intestinal epithelium cell.
8. The metallic elements presents in **Rassindur** is useful for reducing oxidative stress induced by free radicals.
9. **Vang bhasma** - It acts as **Insulinsecreatogauges**, induces the secretion of insulin from pancreas thereby reducing the blood glucose by acting as a cellular regenerator.
10. **Abhrak Bhasma** - Kapha Shamaka Anti-oxidant, Hypolipidemic Sapthdhatupushti, Deepana, Pachana, Rasayana .
11. **Loha bhasma** - Rasayana effect of Lauha Bhasma reduces the degree of oxidative stress signaling pathway and, by that, prevent insulin resistance and β-cell dysfunction. Medohara effect decreases the high lipid level.

Conclusion:-

Madhumeha is a Tridoshaja(kapha-vata pardhan vyaadhi) which has the clinical features similar to Diabetes mellitus. Nyagrodhadi Churna had a significant result in symptoms of Madhumeha. High intake of **Sweets, Fatty Food, Dairy Products, Fast Food,** and **Lack of exercise** precipitate the disease. **Stress** and **Sedentary Life** style are the most powerful factor for causing Diabetes. Since Diabetes is a multi factorial disease, treatment modalities should be based upon vitiated Kapha-Vata Dosha along with Pitta. No adverse drugs effects were observed at the end of study, thus it can be concluded that Madhumeha patients can be effectively managed by Ayurveda.

References:-

1. Agnivesa, Charakasamhita, Ayurvedadipika Commentary of Cakrapanidatta, Edited with Vidyotini Hindi Commentary by pt, Kashinath Shastri and Gorakhnath Chaturvedi, Nidanasthanam 4, Chaukhanba Sanskrit Pratisthana, Varanasi 2005.
2. Ibid Charaka samhita Indriya sthanam 9/9, page- 1004.
3. Harrison's principles of Internel Medicine 19th Edition.
4. Cakrapanidatta, Cakradattam, Edited with Vaidayaprabha hindi commentary by Dr. Indradeva Tripathi Prameharogaadhikhar 35/31 P.218, Chaukhanba Sanskrit Pratisthana,Varanasi 2012.
5. Shastri J.N., Dravyagunavijnanam, Vol.II, Reprint edition, Chaukhambha Bharati Academy, Varanasi, 2001.
6. Diabetes DOF. Diagnosis and classification of diabetes mellitus. Diabetes Care. 2009;32 (SUPPL. . doi:10.2337/dc09- S062.
7. 2. http://www.who.int/diabetes/globalreport/en/ Retrieved March 20, 2018.
8. 3. Saini A. Physicians of ancient India. J Fam Med Prim Care. 2016; 5(2):254. doi:10.4103/2249-4863.192322.
9. 4. Sushruta. Sushruta Samhita Sutrasthana with Nibandha Samgraha commentary by Dalhana. edited by Yadavji Trikamaji. Chaukhambha Orientalia, Varanasi, reprint 2009.
10. 5. Satyavati G V. The Role of Ayurveda as Contemporary Medical Science and Therapeutic System. India Int Cent Q. 1991;18(2/3):71-82.
11. 6. Agnivesha. Charaka Samhita Sutrasthana revised by Charaka & Dridhabala with Ayurveda Deepika commentary by Chakrapanidatta. edited by Yadavaji Trikamji. Chaukhambha Prakashan, Varanasi, reprint 2007
12. 7. Sushruta. Sushruta Samhita Chikitsasthana with Nibandha Samgraha commentary by Dalhana. edited by Yadavji Trikamaji. Chaukhambha Orientalia, Varanasi, reprint 2009.