

Annexure – III- CASE 1

1. Case Type

Gender of patient	FEMALE
Case type (T1DM / T2DM/ Pre-Diabetes / GDM etc.)	T2DM
Comorbidities, if any	OBESE TYPE 1, HYPERTENSION, HYPOTHYROIDISM, FATTY LIVER, OSTEOARTHRITIS

2. Case Details

Beginning of consultations

Case History	57 yr old post menopausal female visited the chamber first time complaining lethargy, muscle spasm, neck pain and high blood sugar readings (checked on her glucometer)
Diagnostic reports checked (if any)	FASTING-130mg/dl, 2 hr LUNCH PP -240mg/dl, HbA1c- 7.6% Tg- 320, total cholesterol- 230, ldl- 160, hdl-35, TSH- 5.4 SGPT- 78, uric acid- 7, CRP- 33, Vit.D- 10 sleep study – severe OSA, B.P- 150/100, ECG- normal study, whole abdomen USG- grade 1 fatty liver + bulky uterus
Physical Examination details (if any)	Ht- 160cm, Wt- 98kg, BMI- 38.2, total body fat %- 49.5, waist circumference- 45”
Observations	Metabolic syndrome (obesity + dyslipidaemia + type 2 diabetes+ fatty liver+ OSA) Erratic ,irregular lifestyle , lack of sleep and over eating No physical activity Excess abdominal fat leading to insulin resistance, hence spike in sugar levels and dyslipidemia , OSA Swelling of feet, under eyes due to excess pressure on lower body and use of Amlodipine for hypertension Post menopausal and low vitamin D status leading to muscle spasms and osteoarthritis Mood swings/ irritability due to hypothyroidism and most menopausal status
Method of care considered / care plan formulated with reasons	LIFESTYLE MODIFICATION – WEIGHT REDUCTION , FAT LOSS CLINICAL MANAGEMENT, PSYCHOLOGICAL WELL BEING. PHARMACOLOGICAL INTERVENTION- By doctor VICTOZA (GLP-1 AGONIST) – 0.6 x 10 days, 1.2 continued for 1 month for blood sugar management and weight loss (action and effectivity by incretin)

	<p>Glucobay – M (ACARBOSE + METFORMIN) – Before brunch and dinner for slower absorption of carbohydrate from food and blood sugar reduction</p> <p>Metosartan (40/25)- high blood pressure and pulse rate twice daily</p> <p>Euthyrox 50 – empty stomach for Hypothyroidism</p> <p>Rosuvastatin 10 – at night for high cholesterol</p> <p>Lumia 60k – once a week for 8 weeks, once in 14 days- to continue 3 months</p> <p>NUTRITION INTERVENTION- 14 hour Intermittent fasting for 1 month along with 1200 kcal (40% carbohydrate which included high fiber cereals ,fruits, vegetables, 20% protein which included whole eggs and whites+ fish, chicken, legumes and 40% fat with emphasis on good fats)</p> <p>EXERCISE- 30 mins walk + 15 mins free hand activity</p> <p>Advised meditation for improvement of sleep and mental well being</p>
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Follow-up Consultations

Periodicity	7 days for a period of 3 months
Parameters checked as part of follow-up care	<p>SMBG 5 point program initially everyday for first 5 days , followed by staggered reports every week</p> <p>Weight , inches check every 5 days</p> <p>Diet modified in 15 days with various options and intermittent fasting stopped after 1 month</p> <p>Exercise monitored, intensity increased with time</p>
Observations	In 3 months- Wt reduction – 18.5 kg , fat- 35%, waist circumference- 38”, fasting- 98mg/dl, pp- 136mg/dl , HbA1c- 5.8%, OSA reduced, TSH- 2, ldl- 96,
Conclusions	Patient was managed well with the classical effect of GLP 1 agonist and calorie deficit diet along with intermittent fasting. All other parameters improved with modified medication and lifestyle

Treatment outcome / Last known status (mention month & year)

5.8.21- HbA1c- 5.8%, body weight- 79.5, energetic and happy

- Lessons Learned- effectivity of GLP 1 agonist, intermittent fasting in managing weight and blood sugar, effect of aerobic exercise and walk improved insulin sensitivity and reduce weight, dietary modification with good fats helped the lipid profile and weight management. I gained much more confidence as a diabetes educator on my intervention protocol.

CASE 2:

1. Case Type

Gender of patient	MALE
Case type (T1DM / T2DM/ Pre-Diabetes / GDM etc.)	T1DM
Comorbidities, if any	None

2. Case Details

Beginning of consultations

Case History	14 year old adolescent male patient visited the chamber complaining frequent urination ,indigestion and nausea, state of confusion and restlessness, drastic weight loss in a period of 21 days
Diagnostic reports checked (if any)	HbA1c- 17.7, RBS- 560mg/dl, c peptide- <0.1, GAD positive, Tg- 450, urine ketones-++, arrythmia
Physical Examination details (if any)	Ht- 168cm, Wt -44kg, fat -13%, BP 100/60
Observations	Lean mass loss and systemic disturbance due to high glycemic load
Method of care considered / care plan formulated with reasons	PHARMACOLOGICAL INTERVENTION- Classical basal bolus regimen given according to his body weight . (0.5 unit/kg = total insulin given ; 50% basal (Basalog) +50% bolus (insugen R divided thrice daily before meals) Put on CGMS for 7 days which was asked to calibrate with the glucometer and maintain SMBG chart 7 point program Education on insulin , insulin storage, change of needle, dose titration, site rotation ,etc explained OTHER- chance of infection, foot care explained NUTRITION INTERVENTION- Diet designed according to RDA, small meal pattern, carbohydrate counting explained and educated on insulin carbohydrate ratio, balanced diet with moderate carbohydrate <55% comprising high fiber cereals and vegetables, 1.2gm/ kg IBW of protein (mainly 1 st class non veg protein sources) to incorporate protein rich meal and snack and help in high demands of puberty, 25% fat with emphasis on good fats for better glycemic

	<p>variations and constant supply of energy</p> <p>Asked to send pictures of meal in a day for first 3 days and understanding its glycemic variability that made insulin titration easier</p> <p>EXERCISE- time of exercise , pattern and type of exercise, pre and post workout snacking explained</p>
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Follow-up Consultations

Periodicity	<p>1st visit – after 7 days, CGMS system opened</p> <p>On call follow up with SMBG everyday for initial 10 days , followed by call once every 5 days, 15 days and a month</p>
Parameters checked as part of follow-up care	SMBG chart, HbA1c, routine urine , body weight, check insulin sites for lipotrophy, foot check, eye check up
Observations	<p>The glycemic variation improved with time along with calculated insulin dose titration, modified eating pattern, aerobic exercises (HbA1c 7.2 % , Tg- 110 in 6 months)</p> <p>Weight gained gradually</p>
Conclusions	The adolescent was well managed with basal bolus regimen and all other parameters improved

Treatment outcome / Last known status (mention month & year)

3.2.21- wt 58kg,ht- 169cm, A1c- 7%

3.Lessons Learned- understanding carbohydrate counting better, understanding CGMS and modifying meals accordingly

CASE 3:

1.Case Type

Gender of patient	FEMALE
Case type (T1DM / T2DM/ Pre-Diabetes / GDM etc.)	GDM
Comorbidities, if any	HYPOTHYROIDISM

2. Case Details

Beginning of consultations

Case History	A 29yr old pregnant lady, with history of PCOD visited the diabetologist during 32 nd week at the 3 rd trimester of gestation with RBS- 260mg/dl
Diagnostic reports checked (if any)	TSH- 3 (on medication), A1c- 7.1%, OGTT- 190mg/dl
Physical Examination details (if any)	Ht- 155cm, wt- 68kg (9kg gained) , foot check
Observations	GDM influenced by PCOD
Method of care considered / care plan formulated with reasons	<p>Lifestyle modification</p> <p>PHARMACOLOGICAL INTERVENTION- metformin 500 initiated twice daily after meals , eltroxin 75 for thyroid to continue, laxative for chronic constipation</p> <p>CGMS 14 days To do SMBG</p> <p>NUTRITION INTERVENTION- balanced nutrition approach (with lower carbohydrate 45% , high protein and good fats) – breakfast divided into 2- 10% of total calories and low carbohydrate to start with as breakfast (as cortisol levels are high and insulin resistance is high) followed by small frequent 6 meal pattern. Protein and good fat rich snack for better glycemic variations along plenty of vegetables and control in fruits, legumes and amount of cereals. Meals were modified according to SMBG</p> <p>EXERCISE INTERVENTION- light walk post meals and stretching exercises suggested</p>

Follow-up Consultations

Periodicity	SMBG chart checked every 3 days , clinic visit after 15 days with CGMS report and then follow up after a month , diet modified according to SMBG
Parameters checked as part of follow-up care	SMBG CHART with 5/7 point program done in staggered manner, spot urine ACR, Fructosamine level, A1c,
Observations	Target of fasting <90mg/dl and PP <120mg/dl achieved within 21 days
Conclusions	Healthy baby (weight 3.2 kg) , mother did not experience

	any adverse situation during delivery
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Treatment outcome / Last known status (mention month & year)

Mother asked to monitor her blood sugars once in 6 months

3.Lessons Learned- strict lifestyle monitoring with variation in the type and amount of carbohydrate in the diet can help achieve healthy pregnancy in GDM.

CASE 4:

1. Case Type

Gender of patient	MALE
Case type (T1DM / T2DM/ Pre-Diabetes / GDM etc.)	T2DM
Comorbidities, if any	CKD, BULLOUS PEMPHIGOID (AUTO IMMUNE SKIN REACTION)

2. Case Details

Beginning of consultations

Case History	A 76 yr old male patient visits the diabetologist with increasing blood sugar due to steroid treatment for his auto immune skin disorder and post covid outcome
Diagnostic reports checked (if any)	A1c- 9.8%, FBS- 180, PPBS- 295, Urine ACR- 452, serum creatinine- 1.67, vit D 11, other parameters were within range
Physical Examination details (if any)	Ht- 172 cm, wt- 64kg, sarcopenia, Neuropathy detected with Biothesiometer , dry scaly foot with black patch
Observations	Lean mass lost during covid 3 months back, erratic biochemical parameters due to ongoing steroid treatment
Method of care considered / care plan formulated with reasons	<p>Premix insulin 30:70 before breakfast and dinner which was changed to 50:50 before dinner based on his SMBG to keep a target of fasting at 110mg/dl and pp at 160mg/dl (keeping ckd in mind)</p> <p>Acarbose added at lunch</p> <p>SMBG was suggested as 5 point program for first 10 days, followed by staggered testing, insulin education was given</p> <p>Diet – moderate carbohydrate with emphasis on fiber , 0.7gm/kg IBW protein , moderate potassium fruits and vegetables and good fats were given</p> <p>Water restriction to 2 lit/day</p> <p>Mobility exercises and walk was suggested in the beginning, gradually strength building exercises were incorporated with the use of stretch bands</p>

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Follow-up Consultations

Periodicity	First 10days , followed by once in 7days- 15 days and a month till a period of 3 months
Parameters checked as part of follow-up care	SMBG, urea,creatinine, spot urine ACR, A1c after 3 months, foot
Observations	With regular follow ups, strict monitoring on diet , the glycemic variability improved with A1c 7.5% , fbs- 108, ppbs- 147, serum creatinine- 1.17 , gained 4kg weight with better mobility , agility. Neuropathic pain reduced
Conclusions	Patient got hope to live life better

Treatment outcome / Last known status (mention month & year)

7.8.21 – a1c 7%

3.Lessons Learned- ckd and diabetes along with auto immune disorder can be controlled with proper pharmacological and dietary intervention

Annexure - III

Format for presentation of Case Studies (maximum 2 pages per case):

4. Case Type

Gender of patient	FEMALE
Case type (T1DM / T2DM/ Pre-Diabetes / GDM etc.)	Pre diabetes
Comorbidities, if any	OBESE TYPE 1, HYPERTENSION, HYPOTHYROIDISM, GRADE 2 FATTY LIVER, DYSLIPIDAEMIA, HYPERURICEMIA, PCOD with Acanthosis,

5. Case Details

Beginning of consultations

Case History	A 19yr old female, alcoholic and smoker came to the diabetologist with metabolic syndrome and irregular menstrual cycle
Diagnostic reports checked (if any)	A1c- 6.2%, fbs- 119mg/dl, pp -160mg/dl, tg- 350, ldl- 165, sgpt- 175, uric acid- 8.5, pcod , bp 130/87, pulse 105
Physical Examination details (if any)	Ht- 160cm, wt- 95kg, fat-46%, waist circumference- 44", acanthosis nigricans on neck
Observations	Metabolic syndrome
Method of care considered / care plan formulated with reasons	No medication was given, patient was taken into strict lifestyle modification for 21 days first which continued for a period of 3 months when metformin 500 was added, vitamin e and febutaz 40 added SMBG was asked to do Diet- low carbohydrate, moderate protein and good fat diet was given with an intermittent fasting pattern followed for 21 days. Aerobic exercises and walking was incorporated

Follow-up Consultations

Periodicity	Every 7 days with for first 21 days over call, then once in 15 days till present
Parameters checked as part of follow-up care	Wt, inches, fat percentage , SMBG chart All biochemical tests reported after 1 month

Observations	In a period of 3 months she lost 15kg weight, a1c came down to 5.5% , inches reduced by 4", tg-150, ldl-110, uric acid 6.5, menstrual cycle resumed in 15days of treatment
Conclusions	Lifestyle modification and strict intervention to be continued

Treatment outcome / Last known status (mention month & year)

9.8.21- a1c 5.5% , wt- 80kg, overall better

3.Lessons Learned- initiation of lifestyle modification can bring change holistically in a pre diabetic patient with metabolic syndrome