

# Integrative Management of a Case with a Known History of Diabetes Mellitus with Acute Pancreatitis – A Rare Case Report

Kannan C<sup>1\*</sup>, Preena Jane<sup>2</sup>

## ABSTRACT

Diabetes Mellitus is one of the common causes of Acute Pancreatitis. After Pancreatitis the endocrine functions of the pancreas may still worsen, and hence Diabetes Mellitus may be difficult to treat. If HbA1c gets elevated, it may prone the patient to the risk of complications such as retinopathy, nephropathy, neuropathy, and cardiovascular disorders. There may be a possibility of a recurrent attack of pancreatitis which may further complicate the condition, and it may be difficult to treat the person. Hence, there is a need to increase the dosage of allopathic medicine which may harm the patient. Sometimes Insulin may be required to control the condition. In such cases, an integrated approach can be tried with a complementary system of medicine. This is a case with a known history of Diabetes Mellitus with Acute Pancreatitis, improved with an integrative approach. The blood parameters came within normal limits and acute exacerbation of pancreatitis was also taken care of.

**Keywords:** Acute Pancreatitis, Argentum Nitricum, Diabetes Mellitus, HbA1c, Homeopathy, Integrative approach

*Asian Pac. J. Health Sci.*, (2022); DOI: 10.21276/apjhs.2022.9.3.40

## INTRODUCTION

Diabetes Mellitus is one of the common causes of Acute Pancreatitis. A retrospective cohort study conducted in the U.S. concluded that type 2 diabetes will increase the risk of pancreatitis. Younger patients are at more risk compared to older people.<sup>[1]</sup> Another observational cohort study in Japan concluded that type 2 diabetes increases the incidence and risk of acute pancreatitis in Japanese people.<sup>[2]</sup> Preexisting Diabetes Mellitus in acute pancreatitis increases the risk of renal failure, ICU admissions, and hence a higher chance of mortality rate.<sup>[3]</sup> In pancreatitis patients, triglyceride levels should be checked, if elevated patients should be screened for Diabetes Mellitus. Diabetes increases triglyceride levels, which increases mortality and morbidity rates in acute pancreatitis.<sup>[4]</sup>

In some cases, diabetes onset can be seen after acute pancreatitis which is categorized under pancreatogenic diabetes. Pancreatogenic diabetes/Type 3c diabetes mellitus is often missed in diagnosis since most of these cases would have been diagnosed as type 2 Diabetes mellitus. One in every five patients with an Acute Pancreatitis episode is prone to develop diabetes mellitus.<sup>[5]</sup> 40% of patients who suffered from acute pancreatitis are predisposed to develop prediabetes and diabetes. While compared to Diabetes in the general population (4–9%), the prevalence rate of diabetes after acute pancreatitis (23%) is increasing. Patients who suffered from acute pancreatitis after getting discharged from hospitals are at a two-fold risk of developing diabetes mellitus in 5 years' time.<sup>[6]</sup>

## CASE REPORT

A 37-year-old male came with complaints of increased blood sugar level, tiredness, and weakness for 1 month. He reported to OPD on 7.1.2021. Before 2 months, he had a sudden onset of abdominal pain with indigestion and went to an allopathic physician. On 5.11.2020, his fasting blood sugar level was 243 and his postprandial blood sugar was 336 mg/dl [Figure 1]. Since Pancreas could not be visualized in the USG abdomen, he

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**How to cite this article:** Kannan C, Jane P. Integrative Management of a Case with a Known History of Diabetes Mellitus with Acute Pancreatitis – A Rare Case Report. *Asian Pac. J. Health Sci.*, 2022;9(3):198-203.

**Source of support:** Nil

**Conflicts of interest:** None.

**Received:** 01/12/2021 **Revised:** 02/01/2022 **Accepted:** 11/02/2022

was advised to undergo a CT scan [Figure 2]. On CT scan he was diagnosed to have acute pancreatitis. Pancreatic amylase (168 units/Liter) and lipase (310 units/Liter) levels were too elevated [Figure 2]. Hence, he was diagnosed to have diabetes mellitus with acute pancreatitis. He was given medications for 1 month and on 5.12.2020 his pancreatic amylase and lipase levels came under control. However, fasting (180 mg/dl) and postprandial blood sugar (216 mg/dl) [Figure 3] levels were more than the normal values in spite of taking antidiabetic medicines. His HbA1c level was 8.3 [Figure 4].

His vitals were stable and within normal range. Hence, it was decided to treat him with an individualized homeopathic approach. His appetite, thirst, and sleep were good. Bowel and bladder habits were normal. He has desires for non-vegetarian foods, an aversion to milk, sweets, and is thermally hot in nature.

By nature, he is extroverted, shy, but when mingled he will be comfortable with them. A few months back in his institution he was compelled to do higher studies, which he felt like a burden. He

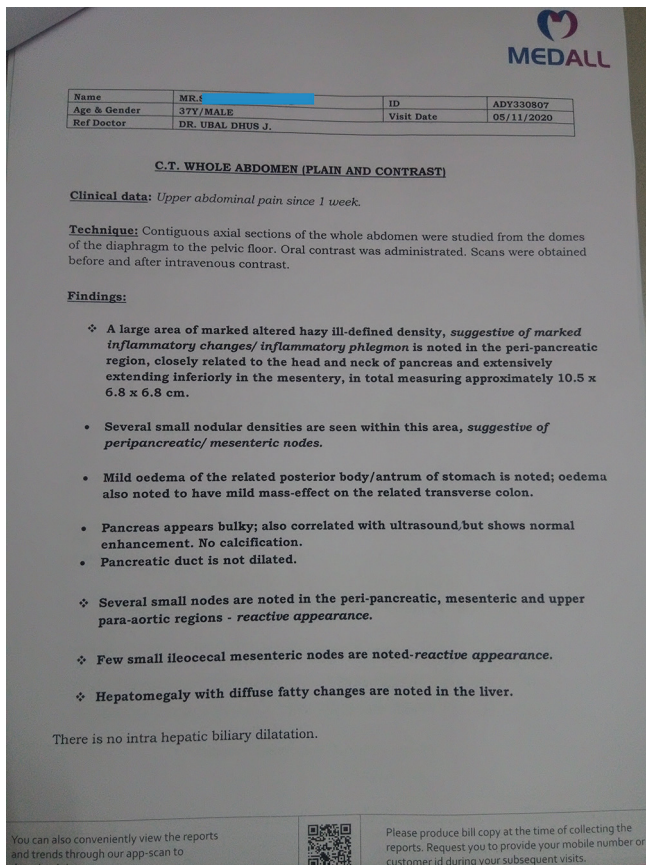


Figure 1: CT Abdomen - Pancreatitis

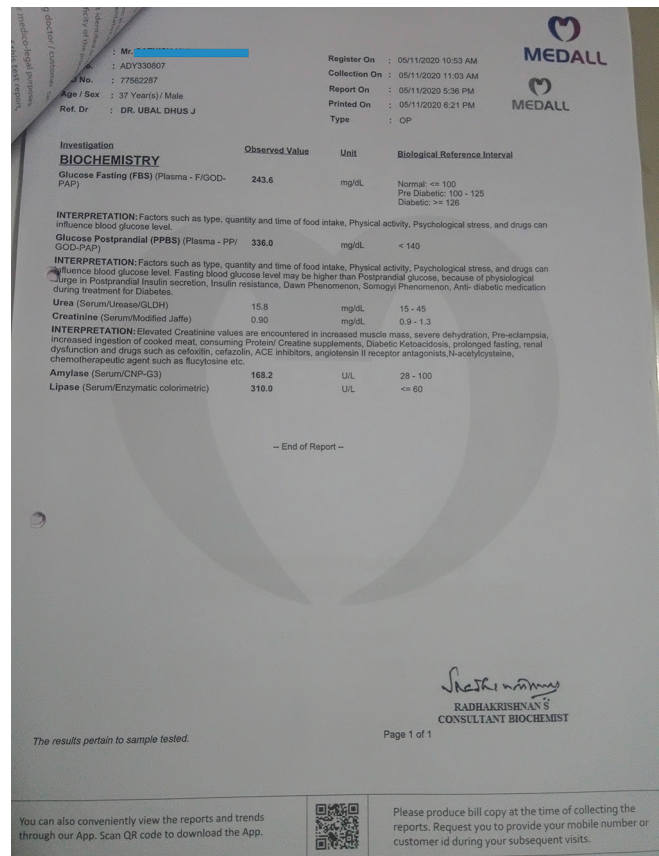


Figure 2: Elevated Pancreatic Enzymes

Table 1: Follow-ups of the patient

Date	Follow-up Details	Prescription
25.01.2020	Complaints were better. Generals were good. FBS – 100 PPBS – 116	1. Placebo Powder one dose tonight 2. Placebo pills three pills thrice after food for 1 month.
10.02.2021	Complaints were better. Generals were good. FBS – 120 PPBS – 125 HbA1C – 5.6 [Figure 5]	1. Argentum Nitricum 1M one dose tonight 2. Placebo pills three pills thrice after food for 1 month.
21.03.2021	Complaints were better. Generals were good. FBS – 108 PPBS – 122	1. Argentum Nitricum 1M one dose tonight 2. Placebo pills three pills thrice after food for 1 month.
26.04.2021	Complaints were better. Generals were good. (10.4.2021 – FBS – 97 PPBS – 129 HbA1c – 6.0) [Figure 6]	1. Argentum Nitricum 1M one dose tonight 2. Placebo pills three pills thrice after food for 1 month.
01.09.2021	Complaints were better. Generals were good.	3. Placebos were given for 3 months because of Covid lockdown. Advised to report if any symptom develops. 1. Placebo Powder one dose tonight 2. Placebo pills three pills thrice after food for 1 month.
14.09.2021	Had hotel food (Pizza) and came with the complaint of abdominal pain with indigestion. FBS – 114 PPBS – 143 Pancreatic amylase – 151 U/L Pancreatic lipase – 125 U/L [Figure 7] (Since complaints started after farinaceous, fatty food Pulsatilla Nigricans was selected)	1. Pulsatilla Nigricans 1M two doses before food that day night and next morning. 1. Placebo pills three pills thrice after food for 2 weeks.
06.10.2021	Complaints were better. Pancreatic amylase – 70.5 U/L Pancreatic lipase – 34 U/L both pancreatic enzymes came under control [Figure 8]	1. Placebo Powder one dose tonight 2. Placebo pills three pills thrice after food for 1 month.
27.10.2021	Complaints were better. Generals were good.	1. Placebo Powder one dose tonight 2. Placebo pills three pills thrice after food for 1 month.
29.12.2021	Complaints were better. Generals were good. FBS – 97 PPBS – 131	1. Placebo Powder one dose tonight 2. Placebo pills three pills thrice after food for 1 month.

FBS: Fasting blood sugar, PPBS: Postprandial blood sugar, HbA1c: Glycated Hemoglobin, U/L: Units/Liter

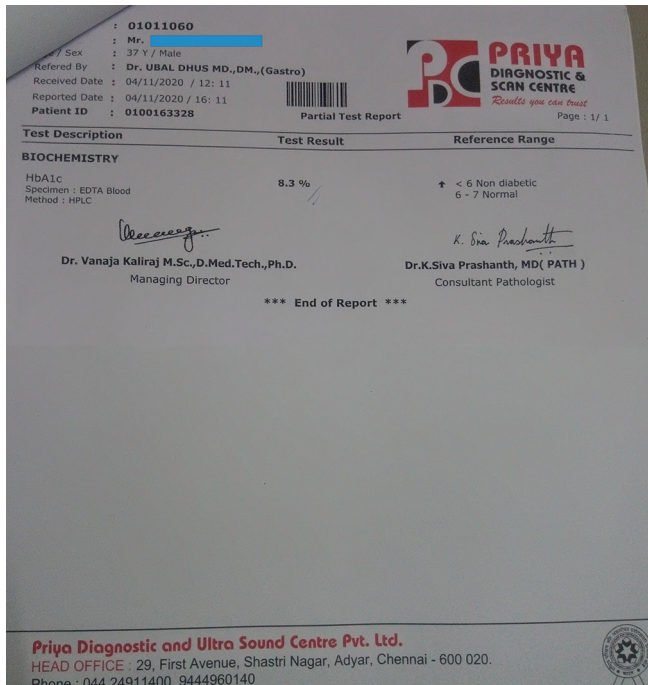


Figure 3: Elevated HbA1c

had fear of undergoing exams since he has lack of confidence. He felt preparations were easy but only it was difficult for him to face the exams. Even though he prepares, well he will be nervous, often feels like going to the restroom during anxiety so that he will feel better. In his work, he will be perfect. He likes consolation during tough times.

Synthesis repertory was used to repertorise the case [Supplementary File 1] and after referring to Boericke's homeopathic materia medica, Argentum Nitricum was selected and prescribed to the patient.

**First Prescription was given on 07.01.2021**

1. Argentum Nitricum 1M one dose – to take next day early morning empty stomach.
2. Placebo pills three pills thrice after food for 2 weeks.

**Follow-ups**

The follow ups of the patient are detailed in Tables 1 and 2. Table 1 describes about follow ups of the patient with prescription. Table 2 gives details about comparison of blood parameters before and after treatment.

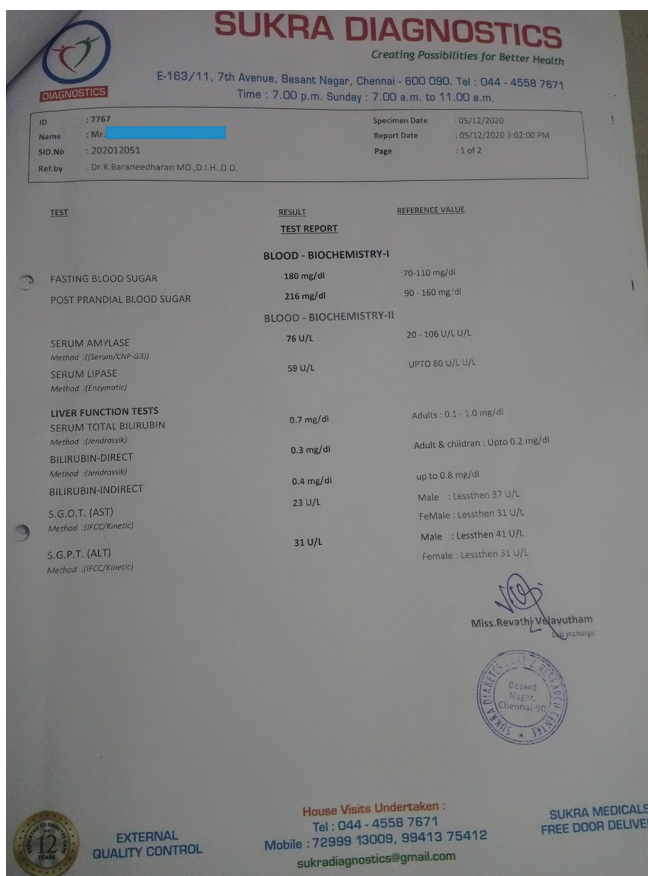


Figure 4: FBS and PPBS Before treatment

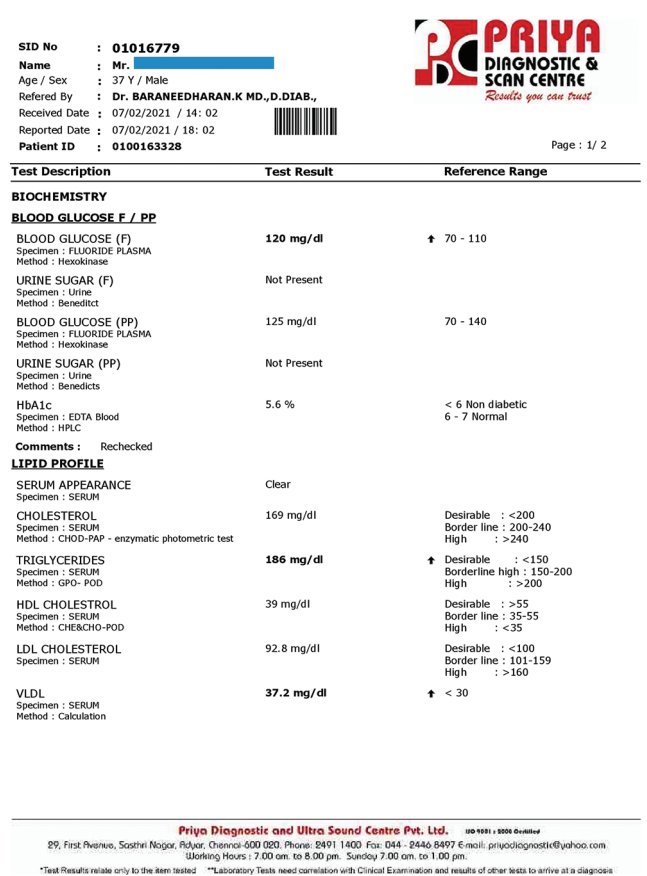


Figure 5: FBS, PPBS, HbA1c

## DISCUSSION

Diabetes after pancreatitis is categorized as Type 3cDM by the WHO and American Diabetes Association. Type 3c diabetes mellitus is due to impairment of pancreatic endocrine dysfunction in relation to pancreatic exocrine damage from acute, relapsing and chronic pancreatitis, cystic fibrosis, hemochromatosis, pancreatic cancer, and pancreatectomy and rare in neonates from pancreatic agenesis.<sup>[7]</sup> Pancreatic exocrine insufficiency, pathological pancreatic imaging, and absence of type 1 diabetes-associated autoimmunity are distinguished features of pancreatogenic diabetes. T3cDM patients are known to have a past history of pancreatitis with abdominal pain, steatorrhea, or maldigestion with nutritional disturbances, and glucose intolerance.

Pre Diabetic persons will have impaired blood glucose (100–125 mg/dl) or HbA1c (5.6–6.4%) and be at risk of developing Diabetes. Diabetic patients will have fasting glucose  $\geq 126$  mg/dl or HbA1c  $\geq 6.5\%$ . Fasting serum insulin level helps to detect hyperinsulinemia if T2DM is associated with insulin resistance. If patients have weight loss disproportionate to diabetes mellitus, imaging techniques can be used to detect the early onset of pancreatic cancer. Diet should be advised with high soluble fibers and low in fat. Oral pancreatic enzyme replacement helps in controlling fat intolerance, steatorrhea, and also protects against fat-soluble vitamin deficiency. Vitamin D helps in preventing osteoporosis and metabolic bone diseases.



Figure 6: FBS, PPBS, HbA1c

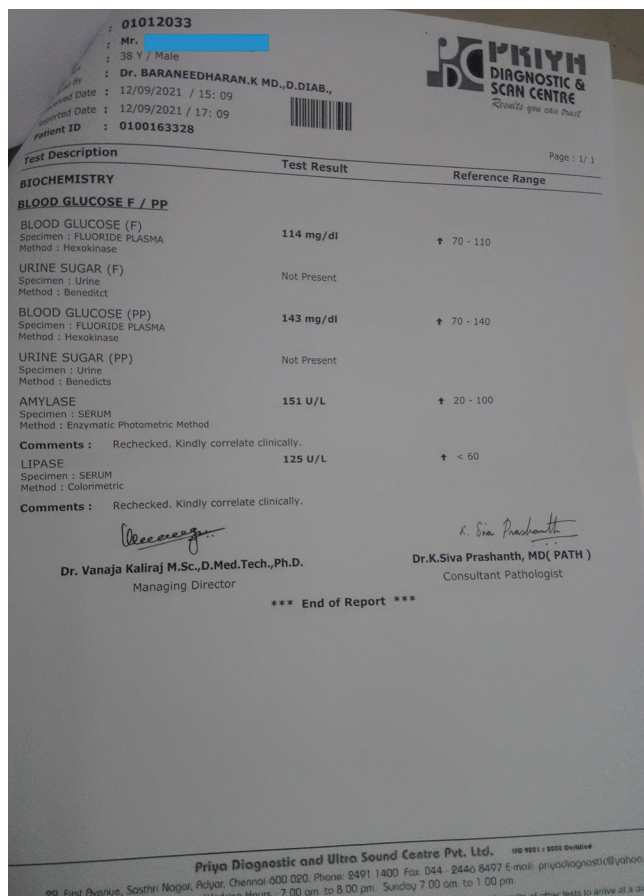


Figure 7: Elevated Pancreatic amylase and lipase

Table 2: Comparison of blood parameters before and during treatment

Investigation Details	Fasting Blood Sugar (mg/dl)	Post Prandial Blood Sugar (mg/dl)	HbA1C	Pancreatic Amylase (Units/Liter)	Pancreatic Lipase (Units/Liter)
5.11.2020	243	336		168	310
5.12.2020	180	216		8.3	-
24.01.2021	100	116	-	-	-
07.02.2021	120	125	5.6	-	-
10.04.2021	97	129	6.0	-	-
25.07.2021	116	143	5.7	65	23
12.09.2021	114	143	-	151	125
25.09.2021	100	70	-	70.5	34
29.12.2021	97	131	-	-	-
26.01.2022	110	119	6.5	-	-

[Figure 9]

01013198  
Mr. [REDACTED]  
38 Y / Male  
Dr. BARANEEDHARAN, K MD., D.DIAB.,  
25/09/2021 / 13: 09  
25/09/2021 / 17: 09  
0100163328

**PRIYA**  
DIAGNOSTIC &  
SCAN CENTRE  
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Test Description	Test Result	Reference Range
<b>BIOCHEMISTRY</b>		
<b>BLOOD GLUCOSE F / PP</b>		
BLOOD GLUCOSE (F) Specimen : FLUORIDE PLASMA Method : Hexokinase	100 mg/dl	70 - 110
URINE SUGAR (F) Specimen : Urine Method : Benedict	Not Present	
BLOOD GLUCOSE (PP) Specimen : FLUORIDE PLASMA Method : Hexokinase	70 mg/dl	70 - 140
Comments : Rechecked		
URINE SUGAR (PP) Specimen : Urine Method : Benedict	Not Present	
AMYLASE Specimen : SERUM Method : Enzymatic Photometric Method	70.5 U/L	20 - 100
LIPASE Specimen : SERUM Method : Colorimetric	34 U/L	< 60

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\*\*\* End of Report \*\*\*

Figure 8: Pancreatic enzymes after treatment

Micro and macrovascular complications are similar to Type I and Type II diabetes mellitus. Hence, patients should be monitored for nephropathy, retinopathy, neuropathy, and cardiovascular diseases. There are no studies conducted so far to specify the guidelines in the treatment of T3cDM. The goal should be to keep HbA1c below 7% to prevent the onset of micro and macrovascular complications.<sup>[8]</sup>

Synthesis repertory was being used to repertorise the case<sup>[9]</sup> and after referring to Boericke's Homeopathic materia medica, Argentum Nitricum was selected and prescribed to the patient. Argentum Nitricum was selected since it covered neurotic symptoms such as examination fears, nervousness, and anxieties.<sup>[10]</sup> In Allen's Keynotes, it is said that Argentum Nitricum patients will have diarrhea during great apprehension<sup>[11]</sup> which is a striking feature that is evident in this case. In this case, an individualized homeopathic approach helped not only in maintaining blood sugar values within the normal range but also in bringing down HbA1C levels. There was an acute exacerbation of pancreatitis on 12.09.2021 with the elevation of pancreatic amylase and lipase levels. There again individualized homeopathic medicine helped the patient where his blood parameters turned normal which was evident with blood investigation done on 25.09.2021. In 1 year follow-up, the patient's blood parameters fasting, postprandial blood sugar, and HbA1c were kept under control.

01023296  
Mr. [REDACTED]  
38 Y / male  
Self  
26/01/2022 / 15: 01  
26/01/2022 / 17: 01  
0100163328

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Test Description	Test Result	Reference Range
<b>BIOCHEMISTRY</b>		
<b>BLOOD GLUCOSE F / PP</b>		
BLOOD GLUCOSE (F) Specimen : FLUORIDE PLASMA Method : Hexokinase	110 mg/dl	70 - 110
URINE SUGAR (F) Specimen : Urine Method : Benedict	Not Present	
BLOOD GLUCOSE (PP) Specimen : FLUORIDE PLASMA Method : Hexokinase	119 mg/dl	70 - 140
URINE SUGAR (PP) Specimen : Urine Method : Benedict	Not Present	
HbA1c Specimen : EDTA Blood Method : HPLC	6.5 %	< 6 Non diabetic 6 - 7 Normal

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\*\*\* End of Report \*\*\*

Figure 9: Latest FBS, PPBS and HbA1c

## CONCLUSION

In the present, era management of some diabetic cases is really challenging, in such cases, an integrative approach can be tried to benefit the patient. This case is documentary evidence to support an integrative approach in difficult cases.

## DECLARATION OF PATIENT CONSENT

The patient has given his written consent for reports and other clinical information to be reported in the journal.

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## SUPPLEMENTARY

The screenshot displays a mobile application interface for a homeopathic repertory. The top navigation bar includes icons for Remedies, Authors, Analysis, Delete, and More. Below this, there are buttons for Chapters, Repertory, Bookmar..., Search, and Clipb. list. A clipboard section shows 'Clipboard 1' with a 'Back' button. The main content area is titled 'GENERALIS' and lists several general symptoms: '5 GENERALIS - DIABETES MELLITUS', '6 GENERALIS - FOOD and DRINKS aversion', '1 MIND - ANXIETY - anticipation; engagement; an', '2 MIND - CONFIDENCE - want of self-confidence', '3 MIND - FEAR - failure, of - examinations; in', and '4 MIND - TIMIDITY - bashful'. Below these, a table lists remedies and their associated symptoms.

Remedies	ΣSym	ΣDeg	Symptoms
arg-n.	6	9	1, 2, 3, 4, 5, 6
lyc.	6	9	1, 2, 3, 4, 5, 6
sil.	6	9	1, 2, 3, 4, 5, 6
carc.	6	7	1, 2, 3, 4, 5, 6
ph-ac.	6	7	1, 2, 3, 4, 5, 6
nat-m.	5	8	1, 2, 4, 5, 6
ars.	5	7	1, 2, 3, 5, 6
med.	5	7	1, 2, 3, 5, 6
carb-v.	5	6	1, 2, 3, 4, 5
thuj.	5	6	1, 2, 3, 4, 5
zinc.	5	6	2, 3, 4, 5, 6

Supplementary File 1: Repertorization result