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Role of DIP Diet in Managing Blood Transfusion-Dependent Thalassemia Major: A Case Study of Integrative Therapies"

Biswaroop Roy Chowdhury

Co-founder HIIMS Group of Hospitals, Faridabad, Address: 413A, IMT, Sec 68, HSIIDC, Faridabad, Haryana, India

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ABSTRACT

Thalassemia Major, a severe genetic blood disorder, necessitates frequent blood transfusions to manage low hemoglobin levels. This case highlights the recovery journey of Dibyanshu Pani, a 4-year-old boy from Odisha, diagnosed with Blood Transfusion Dependent Thalassemia Major in April 2023. Initially treated at SCB Medical College, Cuttack, and subsequently in Mumbai, Dibyanshu underwent frequent transfusions every 20 days to maintain his hemoglobin levels, which fluctuated between 5 and 9. In July 2023, his family opted for an alternative approach under Dr. Namita's guidance, incorporating integrative therapies such as the *DIP Diet*, *Living Water Therapy*, *Sunlight Exposure*, and *HWI Therapy*. Remarkably, Dibyanshu's condition stabilized, reducing his dependence on transfusions. By October 2023, his hemoglobin levels were maintained between 6.8 and 7.5 without regular transfusions. His family's adherence to integrative therapies transformed his prognosis, with the frequency of transfusions decreasing to once every eight months. In August 2024, a sudden episode of diarrhea necessitated a single transfusion. Today, Dibyanshu leads a healthy life, free from medications, following a holistic lifestyle. This case underscores the potential of integrative therapies in managing chronic conditions like Thalassemia Major, reducing medical dependence, and improving quality of life.

Introduction

Thalassemia Major, a severe inherited blood disorder, is characterized by a deficiency in hemoglobin production, resulting in chronic anemia.[1] It often necessitates frequent blood transfusions to sustain life and manage hemoglobin levels. Globally, it is a significant health challenge, particularly in regions with high prevalence, such as India, where the lack of awareness and access to advanced medical care further complicates disease management.[2] Children with Thalassemia Major face a lifetime of medical interventions, including transfusions and iron chelation therapy, often accompanied by side effects and financial burdens.[3]

Conventional treatment for Thalassemia Major primarily involves maintaining adequate hemoglobin levels through frequent blood transfusions and managing iron overload with chelation therapies.[4] While these interventions are lifesaving, they often lead to complications such as infections, organ

Corresponding author.
E-mail address:biswaroop@biswaroop.com

damage, and a reduced quality of life. In many cases, families of affected individuals seek alternative or complementary approaches to improve outcomes and reduce dependency on medical interventions.[5]

Epidemiology

Thalassemia Major, a severe form of beta-thalassemia, is a genetic disorder caused by mutations in the *HBB* gene, leading to defective hemoglobin synthesis.[6] It is most prevalent in regions where malaria was or remains endemic, as carriers of the beta-thalassemia trait are partially protected against malaria.[7] These areas include the Mediterranean basin, the Middle East, South Asia, Southeast Asia, and parts of Africa. Globally, approximately 1.5% of the population are carriers of thalassemia, with an estimated 300,000-400,000 children born annually with severe forms of the disease, including Thalassemia Major.[8]

In India, Thalassemia Major is a significant public health concern, with a carrier frequency of 3-4% in the general population, translating to nearly 35-40 million carriers.[9] The high birth rate in India results in approximately 10,000-12,000 new cases of Thalassemia Major annually.[10] The disease burden is further exacerbated in rural and underserved areas, where access to diagnostic facilities, regular blood transfusions, and iron chelation therapy remains limited.[11]

This case study of Dibyanshu Pani, a 4-year-old boy diagnosed with Blood Transfusion Dependent Thalassemia Major, highlights the potential of integrative therapies as an adjunct to conventional treatments. Under the guidance of Dr. Namita, his condition improved significantly with therapies like the *DIP Diet*, *Living Water Therapy*, and *Sunlight Therapy*. This integrative approach reduced his reliance on blood transfusions, stabilized his hemoglobin levels, and significantly enhanced his quality of life, offering a promising perspective on managing chronic conditions like Thalassemia Major.

Case History

Patient Information

Parameter	Details
Patient Name	Dibyanshu Pani
Age/Sex	3 years, 3 days/Male

Chief Complaints

Parameter	Details
Condition	Beta Thalassemia Major
Weight	10 kg

Examination Findings

Parameter	Details
Pallor	Present (++).
Icterus	Absent.
Pulse	82/min.
Cardiovascular System (CVS)	Normal.

Dibyanshu Pani, a 4-year-old boy from Samal Pur, Odisha, began exhibiting symptoms of severe weakness and pallor in March 2023. Concerned about his deteriorating condition, his family sought medical attention at a local hospital, where initial tests were conducted, including evaluations for jaundice. However, the absence of a definitive diagnosis and the lack of improvement in his condition led to further referrals. By April 2023, Dibyanshu was admitted to SCB Medical College and Hospital in Cuttack, where a thalassemia test was advised. The results confirmed the diagnosis of Thalassemia Major, a severe genetic blood disorder requiring regular medical intervention. His family was subsequently referred to a specialized treatment center in Mumbai for advanced care.

In Mumbai, Dibyanshu underwent a rigorous cycle of blood transfusions. Over a span of 15-20 days, he received four consecutive transfusions to address his critically low hemoglobin levels, which consistently fell to 5 g/dL. These transfusions temporarily elevated his hemoglobin to 9 g/dL but could not sustain normal levels for more than 20 days, necessitating repeated interventions. The constant dependency on transfusions took a toll on his physical health and the emotional and financial well-being of his family. By mid-2023, his parents were desperate for a solution that could provide long-term stability without frequent transfusions.

In July 2023, the family reached out to Dr. Namita's team under the guidance of Dr. BRC. Dibyanshu was introduced to an integrative approach comprising the *DIP Diet* (a plant-based anti-inflammatory diet), *Living Water Therapy*, *HWI Therapy* (Hot Water Immersion Therapy), *Sunlight Therapy*, and *Earthing Therapy*. Despite initial skepticism, the family committed to this regimen. His condition showed remarkable improvement as his hemoglobin levels stabilized between 6.8 and 7.5 g/dL without requiring transfusions. In October 2023, out of fear and habit, his family opted for another transfusion despite his stable condition. However, after this point, he remained transfusion-free until August 2024, when an episode of severe diarrhea caused his hemoglobin to drop, necessitating a single transfusion.

Currently, Dibyanshu maintains a healthy lifestyle, with blood transfusions required only once every eight months compared to every 20 days previously. He is free of all

allopathic medications and follows a strict holistic regimen, including the *DIP Diet* and other natural therapies. This case highlights the potential efficacy of integrative therapies in managing Thalassemia Major, significantly reducing dependency on conventional treatments while enhancing overall health and quality of life.

Drug History

Table no. 1 Treatment Prescribed

Medication	Dosage	Date Prescribed
Tab. Folic Acid (5 mg)	1 tablet once daily	14 April 2023
Tab. Pyridoxine (50/40)	1 tablet once daily	
Tab. Calcium (250/500 IU)	1 tablet once daily	
Tab. B Complex	1 tablet once daily	
Tab. Albendazole	1 tablet single dose	
Tab. Hydroxyurea (500 mg)	1 tablet once daily	
Tab. Allopurinol (100/50)	1 tablet once daily	
Tab. Imatinib (10/25/50 mg)	1 tablet once daily	
Tab. Azithromycin (200 mg)	As needed	
Tab. Cefixime (200 mg)	As needed	
Tab. Amoxicillin (150/300 mg)	As needed	
Tab. Defarasirox (200 mg)	1 tablet once daily	
Tab. Aceclofenac (100 mg)	As needed	
Tab. Ibuprofen (400 mg)	As needed	
Tab. Pantoprazole (40 mg)	1 tablet once daily	
Syrup Calcium	As prescribed	

Medical Condition

Before (March 2023 to July 2023): Dibyanshu was diagnosed with *Blood Transfusion Dependent Thalassemia*, requiring frequent transfusions to manage dangerously low hemoglobin levels.
After (July 2023 to September 28, 2024): Post-integrative therapy, Dibyanshu achieved a state of being *Blood Transfusion Free*, with only one transfusion in August 2024 due to sudden diarrhea.

Hospital Name

Before: Dibyanshu was treated at SCB Medical College and Hospital, Cuttack, following a conventional medical approach with heavy reliance on blood transfusions and medications.
After: He transitioned to an integrative treatment plan under *Dr. BRC DIP Diet Therapy*, emphasizing holistic care and natural interventions.

Medications Taken

- Before: Dibyanshu was on a regimen of 16 allopathic medications, including:
  - Folic acid, Pyridoxine, Calcium supplements, B Complex, and Albendazole for nutritional support and deworming.
  - Hydroxyurea and Allopurinol for managing complications of thalassemia.
  - Antibiotics such as Azithromycin, Cefixime, and Amoxicillin for infections.
  - Painkillers like Ibuprofen and Aceclofenac for discomfort.
  - Defarasirox to manage iron overload caused by repeated transfusions.
  - Other medications to treat symptoms like Pantoprazole (for stomach issues) and cough syrups.
- After: All medications were discontinued. He followed natural therapies, including:

0. Living Water Therapy: Drinking natural, mineral-rich water.
1. DIP Diet: A plant-based, anti-inflammatory diet that promotes detoxification and improved overall health.
2. Sunlight Exposure: To boost vitamin D levels naturally.
3. Banana Leaf Therapy: A cooling therapy to support detoxification and immune function.
4. HWI Therapy: Daily hot water immersion for 30 minutes to promote circulation and relaxation.
5. Earthing Therapy: Direct contact with the earth to reduce stress and inflammation.

Physical Discomforts/Symptoms

- Before: Dibyanshu experienced pallor (extreme paleness) and severe weakness, typical symptoms of Thalassemia Major due to inadequate oxygenation caused by low hemoglobin levels.
- After: Post-therapy, these symptoms resolved completely, and he showed no physical discomfort.

Frequency of Blood Transfusions

- Before: Dibyanshu required back-to-back blood transfusions, with four transfusions administered within one month to manage critically low hemoglobin levels (Hb: 5-9 g/dL with transfusion).
- After: The need for transfusions was significantly reduced. Only one transfusion was needed in August 2024 (due to diarrhea), and his hemoglobin levels were maintained at 6.8-7.5 g/dL without transfusions.

Investigations

- Before: Blood tests showed hemoglobin levels between 5 and 9 g/dL only after transfusions.
- After: Without transfusions, Dibyanshu's hemoglobin levels stabilized at 6.8-7.5 g/dL, a significant improvement attributed to integrative therapies and dietary modifications.

Table no. 2 Complete Blood Count (CBC)

Parameter	Result	Unit	Reference Range	Remarks	Date
WBC (White Blood Cells)	14.96	$10^3/\mu L$	4.0 - 11.0	Elevated	
RBC (Red Blood Cells)	3.06	$10^6/\mu L$	3.5 - 5.5	Low	
HGB (Hemoglobin)	6.9	g/dL	13.0 - 17.0	Low	
HCT (Hematocrit)	22.9	%	37.0 - 51.0	Low	
MCV (Mean Corpuscular Volume)	74.5	fL	80.0 - 96.0	Low (Microcytosis)	
MCH (Mean Corpuscular Hemoglobin)	22.5	pg	27.0 - 32.0	Low	
MCHC (Mean Corpuscular Hemoglobin Concentration)	30.1	g/dL	31.5 - 34.5	Low	14/04/2023
PLT (Platelet Count)	206	$10^3/\mu L$	150 - 450	Normal	
RDW-SD (Red Cell Distribution Width - SD)	79.1	fL	37.0 - 54.0	Elevated	
RDW-CV (Red Cell Distribution Width - CV)	29.9	%	11.5 - 14.5	Elevated	

Table no. 3 Differential WBC Counts

Parameter	Result	Unit	Reference Range	Remarks	Date
NEUT (Neutrophils)	6.73	$10^3/\mu L$	4.0 - 10.0	Normal	14/04/2023
LYMPH (Lymphocytes)	6.62	$10^3/\mu L$	1.0 - 4.0	Elevated	
MONO (Monocytes)	0.84	$10^3/\mu L$	0.2 - 0.8	Slightly Elevated	
EO (Eosinophils)	0.26	$10^3/\mu L$	0.0 - 0.6	Normal	
BASO (Basophils)	0.02	$10^3/\mu L$	0.0 - 0.1	Normal	

Table no. 4 Reticulocyte Parameters

Parameter	Result	Unit	Reference Range	Remarks	Date
Reticulocytes (RET)	Elevated	%	0.2 - 2.0	Increased Reticulocytes	14/04/2023
NRBC% (Nucleated RBC Percentage)	3.5	%	(N/A)	Present	

Table no.5 LFT

Test Parameter	Observed Value	Unit	Biological Reference Interval	Date
Total Protein	7.16	gm%	6.3 - 8.4 gm%	05 May 2024
Albumin	4.52	gm%	3.5 - 5.0 gm%	
Globulin	2.64	gm%	1.8 - 3.6 gm%	
A/G Ratio	1.71		1.2 - 2.2	
Bilirubin - Total	2.32	mg/dL	< 1.0 mg/dL	
Bilirubin - Direct	1.35	mg/dL	< 0.2 mg/dL	
Bilirubin - Indirect	0.97	mg/dL	< 0.4 mg/dL	
Gamma GT	11.57	U/L	< 10 - 47	
SGOT (AST)	44.26	U/L	< 46	
SGPT (ALT)	21.97	U/L	< 49	
Alkaline Phosphatase	109.09	U/L	42 - 362	

Table no. 6 Complete Blood Count (CBC)

Parameter	Result	Unit	Lower Limit (LL)	Upper Limit (UL)	Remarks	Date
WBC (White Blood Cells)	15.97	10^3/µL	4.0	10.0	Elevated	2024-05-04
RBC (Red Blood Cells)	3.43	10^12/L	3.5	5.5	Slightly Low	
HGB (Hemoglobin)	7.6	g/dL	13.0	17.0	Low	
MCV (Mean Corpuscular Volume)	73.7	fL	80.0	96.0	Low (Microcytosis)	
MCH (Mean Corpuscular Hemoglobin)	23.2	pg	27.0	32.0	Low	
MCHC (Mean Corpuscular Hemoglobin Concentration)	30.0	g/dL	31.5	34.5	Low	
RDW-CV (Red Cell Distribution Width - CV)	36.4	%	11.5	14.5	Elevated	
RDW-SD (Red Cell Distribution Width - SD)	Elevated	fL	(N/A)	(N/A)	RBC size uneven	
HCT (Hematocrit)	25.3	%	37.0	51.0	Low	
PLT (Platelet Count)	299	10^9/L	150	450	Normal	
MPV (Mean Platelet Volume)	9.5	fL	7.0	11.0	Normal	
PDW (Platelet Distribution Width)	29.9	%	(N/A)	(N/A)	Platelet size uneven	
P-LCR (Platelet Large Cell Ratio)	40.6	%	(N/A)	(N/A)	Elevated	

Table no. 7 Differential WBC Counts

Parameter	Result	Unit	Lower Limit (LL)	Upper Limit (UL)	Remarks	Date
NEUT (Neutrophils)	6.78	10^3/µL	4.0	10.0	Normal	2024-05-04
LYMPH (Lymphocytes)	7.14	10^3/µL	1.0	3.0	Elevated	
MONO (Monocytes)	1.28	10^3/µL	0.2	1.0	Elevated	
EO (Eosinophils)	0.80	10^3/µL	0.0	0.6	Slightly Elevated	
BASO (Basophils)	0.02	10^3/µL	0.0	0.1	Normal	

Table no. 8 Immuno Assay Report

Test	Result	Unit	Date
Triiodothyronine (T_3)	-	ng/mL	
Tetraiodothyronine (T_4)	-	µg/dL	
Thyroid Stimulating Hormone (TSH)	-	µIU/mL	
Free T_3 (FT_3)	-	pmol/L	
Free T_4 (FT_4)	-	pmol/L	
Ferritin	610	ng/mL	
Insulin	-	µIU/mL	
Prolactin	-	ng/mL	22/12/2023
Testosterone	-	ng/mL	
Progesterone	-	ng/mL	
Vitamin D (25-Hydroxy)	-	ng/mL	
Vitamin B12	-	ng/mL	
Procalcitonin	-	ng/mL	
Interleukin (IL6)	-	ng/mL	
Troponin-T	-	ng/mL	
Lactate Dehydrogenase (LDH)	-	U/L	
Adenosine Deaminase (ADA)	-	U/mL	
CA125	-	U/mL	
Carcinoembryonic Antigen (CEA)	-	ng/mL	
Alpha-Feto Protein (AFP)	-	ng/mL	
Prostate-Specific Antigen (PSA)	-	ng/mL	
S-100	-	pg/mL	
Pro-BNP	-	pg/mL	
Trop-I	-	pg/mL	

Table no. 9 Ferritin (Serum) Report

Parameter	Result	Units	Reference Range	Date
Ferritin (Serum)	2513.1	ng/mL	Target: 210.0 Lower Range: 169.8 Higher Range: 250.2	26/08/2024

Sonogram of Abdomen & Pelvis Report
Date: 8 July 2024
Patient Name: Dibyanshu Pani (3 years old)

Table no.10- Sonogram of Abdomen & Pelvis Report

Organ/System	Findings	Remarks
Liver	Enlarged, homogenous echopattern. No SOL (Space-Occupying Lesion) seen. Normal IHB (Intrahepatic Biliary Radicles).	Mild Hepatomegaly
Common Duct	3 mm (Normal). No obstruction seen.	Normal
Gallbladder	Normal in size and shape. Wall and mucosa normal. No mass or calculus seen.	Normal
Pancreas	Normal in size and echopattern. No SOL or calcification seen.	Normal
Spleen	Enlarged (119 mm). No SOL or calcification seen.	Splenomegaly
Portal System	Portal vein is normal. Diameter: 8 mm.	Normal
Kidneys	Normal in location and size. Sinus and cortical echopatterns and pelvicalyceal systems normal. Both ureters not dilated. No calculus, SOL, or hydronephrosis.	Normal
Right Kidney	Size: 76 × 28 mm.	Normal
Left Kidney	Size: 73 × 29 mm.	Normal
Bladder	Normal wall and mucosa. No mass, calculus, or diverticulum seen.	Normal
Abdomen & Pelvis	No ascites or para-aortic adenopathy. No masses or collection seen. A few sub-centimetric mesenteric lymph nodes noted.	No significant abnormality

Impression- Sonogram findings consistent with: **Splenomegaly** & **Mild Hepatomegaly**

Discussion

Thalassemia Major presents significant therapeutic challenges due to its reliance on frequent blood transfusions and the resultant complications, such as iron overload, organ dysfunction, and systemic stress.[12] Dibyanshu Pani's condition exemplified these challenges, with critically low hemoglobin levels (5–9 g/dL) necessitating transfusions every 15–20 days.[13] Diagnostic findings revealed severe microcytic hypochromic anemia, elevated reticulocyte counts, and signs of ineffective erythropoiesis.[14] Further complications included high ferritin levels (2513.1 ng/mL), reflecting iron overload, and organ enlargement, including splenomegaly (119 mm) and mild hepatomegaly, highlighting the systemic burden of chronic hemolysis and transfusion dependency.[15]

In July 2023, under the guidance of Dr. Namita, an integrative therapeutic approach was adopted to complement conventional treatments. This included the *DIP Diet* (a plant-based anti-inflammatory diet), *Living Water Therapy*, *Hot Water Immersion Therapy (HWI)*, *Sunlight Therapy*, and *Earthing Therapy*. These interventions aimed to reduce systemic inflammation, enhance natural detoxification, and improve overall metabolic efficiency. Remarkably, the therapies stabilized Dibyanshu's hemoglobin levels between 6.8–7.5 g/dL, even in the absence of regular blood transfusions. This represented a significant reduction in transfusion dependency, with only one transfusion required in August 2024 due to an acute episode of diarrhea.

The integrative therapies also resolved the patient's symptoms, including severe pallor, fatigue, and weakness. Previously on 16 medications, including iron chelators, antibiotics, and nutritional supplements, Dibyanshu discontinued all allopathic treatments and transitioned to a holistic regimen. This shift reduced the financial, physical, and emotional

burden on the family, demonstrating the potential of non-invasive approaches in improving quality of life for patients with chronic conditions.

The outcomes of this case highlight the role of holistic care in managing complex conditions like Thalassemia Major. By reducing transfusion frequency, addressing underlying inflammation, and improving systemic resilience, integrative therapies offer a complementary pathway for reducing medical dependency. However, the persistence of iron overload, as indicated by high ferritin levels, necessitates continued monitoring to prevent long-term organ damage. This case provides evidence for the potential of integrative methods but underscores the need for systematic research to validate these findings and assess their applicability in broader populations.[16]

Findings

1. Hematological Findings:
    - Severe microcytic hypochromic anemia with low hemoglobin (6.9 g/dL).
    - Elevated RDW-CV (29.9%) and reticulocyte count indicate ineffective erythropoiesis.
    - Nucleated RBCs (NRBC%) highlight bone marrow stress.
    - Persistently low RBC count ($3.06 \times 10^6/\mu L$), hematocrit (22.9%), and low MCV (74.5 fL) and MCH (22.5 pg).
2. Iron Overload:
    - Ferritin levels were significantly elevated (2513.1 ng/mL), suggesting chronic iron overload with risks of organ damage.
3. Liver Function:
    - Elevated total bilirubin (2.32 mg/dL) and direct bilirubin (1.35 mg/dL) indicated mild liver dysfunction.
    - Normal protein, albumin, globulin, and A/G ratio levels; mildly elevated SGOT (44.26 U/L).
4. Sonographic Findings:
    - Splenomegaly (119 mm) and mild hepatomegaly.
    - No abnormalities in kidneys, gallbladder, pancreas, or common duct.
5. Symptomatology:
    - Pre-therapy: Pallor, fatigue, and weakness.
    - Post-therapy: Complete resolution of symptoms.
6. Transfusion Dependency:
    - Pre-therapy: Blood transfusions every 15–20 days (Hb: 5–9 g/dL).
    - Post-therapy: Frequency reduced to once every eight months.
7. Improved Hemoglobin Stability:
    - Hemoglobin stabilized at 6.8–7.5 g/dL without regular transfusions.
8. Discontinuation of Medications:
    - Stopped 16 allopathic medications after adopting holistic therapies.
9. Ayurvedic Interventions:
    - Therapies like the DIP Diet, Living Water Therapy, HWI, Sunlight Therapy, and Earthing Therapy improved overall well-being.
10. Quality of Life:
    - Reduced transfusion needs and medication reliance alleviated emotional, financial, and physical burdens.

Role of the DIP Diet in Managing Thalassemia Major

The **DIP Diet**, a plant-based, anti-inflammatory dietary approach, significantly improved Dibyanshu's health by addressing systemic inflammation, oxidative stress, and metabolic imbalances associated with Thalassemia Major. Key roles include:

1. Reduction of Inflammation: Antioxidant-rich foods reduced inflammation caused by hemolysis and iron

overload, enhancing overall health.[17]

2. Erythropoiesis Support: Nutrient-dense foods provided essential vitamins and minerals for red blood cell production, stabilizing hemoglobin levels at 6.8–7.5 g/dL without frequent transfusions.[18]
3. Detoxification: High-fiber plant-based foods supported liver and kidney detoxification, managing iron overload and protecting against organ damage.[19]
4. Gut Health Improvement: Enhanced gut microbiota balance improved nutrient absorption, immune function, and metabolic efficiency.[20]
5. Alkalizing Effect: An alkaline diet reduced oxidative stress, promoting cellular health.[21]
6. Antioxidant Boost: Foods like berries and leafy greens combated oxidative damage from iron overload and hemolysis, preserving organ integrity.[22]
7. Weight and Energy Management: Nutrient-dense, calorie-appropriate foods maintained energy levels and prevented fatigue.[23]
8. Complication Reduction: The anti-inflammatory effects contributed to stabilizing splenomegaly and hepatomegaly, reducing strain on organs.[24]

The DIP Diet was instrumental in reducing Dibyanshu's reliance on transfusions, improving his hemoglobin stability, and enhancing his overall quality of life.

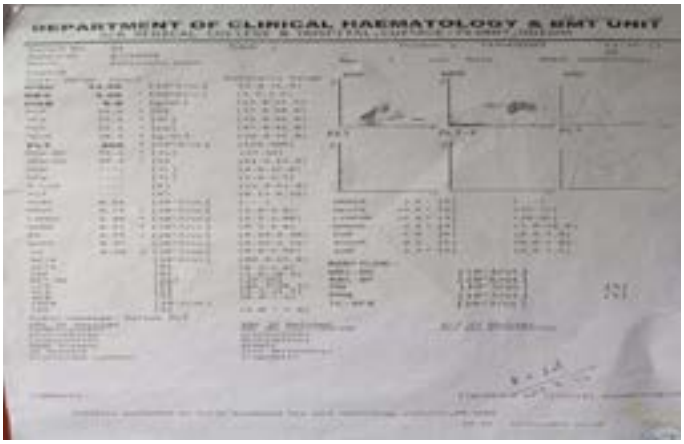
Impact on Dibyanshu's Recovery

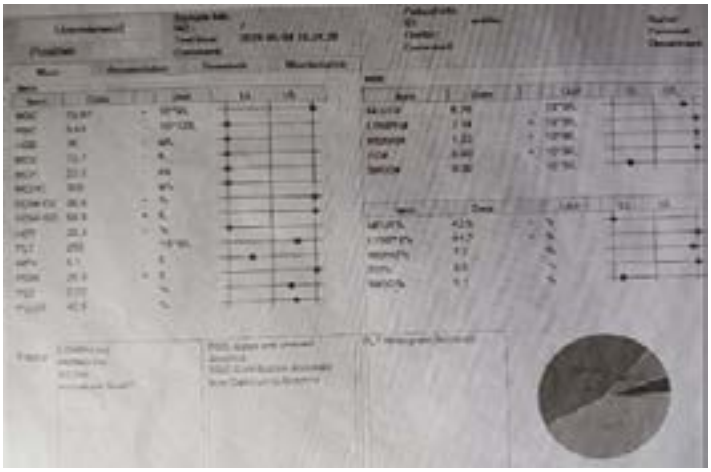
- Pre-DIP Diet: Frequent transfusions every 15–20 days were required to maintain hemoglobin levels, with persistent symptoms of pallor and fatigue.
- Post-DIP Diet: The transfusion frequency reduced to once every eight months, with stabilized hemoglobin levels and complete resolution of symptoms. His overall health improved significantly, with no need for allopathic medications.

Conclusion

The case of Dibyanshu Pani, a 4-year-old boy with Thalassemia Major, highlights the transformative potential of integrative therapies in managing chronic conditions. By combining holistic approaches such as the DIP Diet, Living Water Therapy, Sunlight Therapy, Hot Water Immersion Therapy (HWI), and Earthing Therapy, his dependence on frequent blood transfusions (previously every 15–20 days) was significantly reduced to once every eight months, while his hemoglobin levels stabilized at 6.8–7.5 g/dL without transfusions. Additionally, all anemia-related symptoms resolved, and he discontinued 16 allopathic medications. The DIP Diet played a central role in addressing systemic inflammation, oxidative stress, and nutrient deficiencies, contributing to improved erythropoiesis and overall health. This case demonstrates that integrative therapies, when tailored to individual needs, can complement conventional treatments, reduce medical dependency, and enhance quality of life. While further research is necessary to validate these approaches, Dibyanshu's recovery offers hope for broader application in managing Thalassemia Major and similar chronic conditions.

Conflict of interest –nil





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