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ABNORMALLY LOW HbA1C IN A PATIENT WITH HEMOLYTIC ANEMIA- A CASE REPORT.

Clinical Biochemistry

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ABSTRACT

A 73 yrs old male was diagnosed to have haemolytic anemia by the consultant physician. His HbA1c level and erythrocyte level measured. There is no proportionate increase in HbA1c and RBC life span. He has H.pylori infection and consequent occult blood.

KEYWORDS

HbA1c, CBC, RBC

INTRODUCTION

A 73 year old male came with excessive fatigue since one week, constipation since 2 weeks with positive melena with early middle cerebral artery (MCA) stroke and aortofemoral bypass, post stroke seizures, colloid cyst 3rd ventricle. BP 140/80, Respiratory Rate 20/1.There was Grade I fatty liver, right renal cortical cyst, Grade III prostatomegaly. Anemia was managed with packed red blood cell (PRBCs) transfusions.

CASE REPORT

At the time of admission the Hb level was 4.3g/dl, Serum urea 134 mg/dl, Serum Sodium 134mmol/L, Serum Potassium 3.9mmol/L, Ferritin 2.71 mg/dl.

At the time of discharge his Hb level 10.2g/dl. He had H.pylori infection and gastrointestinal (GI) bleeding.

Even with packed red blood cell transfusions there was no proportionate increase in HbA1c.Even though there was consistent increase in Hb. The patient had haemolytic anemia.

HbA1c is a valuable tool for the monitoring of glucose control in diabetes patients over the time and have a strong predictive 2-3 months. . In general, any condition shortens RBC survival or decreases mean erythrocyte age, such as autoimmune haemolytic anemia, hereditary spherocytosis discrepancies or acute or chronic blood loss will falsely lower the HbA1C level[1,2]. Hence, in conditions associated with shortened red cell survival, HbA1C cannot be used to monitor or manage glucose control.

Hemolytic anemia could be due to HbF ,HbS. HbA1c is affected by Vit E,Vit C, hypertriglyceridemia, uremia, alcoholism, chronic ingestion of aspirin, and opiate addiction have been reported to interfere with HbA1c. HbA1c is not associated with Hb life span and is independent of haemolytic anemia.

Table I

SN	Date	Hb (g/dL)	HbA1c (%)
1.	31.12.2021	4.3	5.4
2.	02.01.2022	7.5	5.9
3.	04.01.2022	10.1	5.8

DISCUSSION

A 73 year old male came to emergency department of the hospital with excessive weakness and constipation since 2 weeks. He had gastrointestinal bleeding and consequent abdominal blood loss. He had low HbA1c which had no direct correlation with haemolytic anaemia.

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