SHORT COMMUNICATION

ASSOCIATION OF CEREBROVASCULAR ACCIDENT WITH POLYCYTHEMIA VERA

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Polycythemia Vera is a rare myeloproliferative neoplasm usually having ischemic stroke/thrombotic episode as presenting complaint. The patient reported had history of Cerebrovascular accident (CVA) two years back but blood cell counts were normal that time with no Polycythaemia Vera.

Keywords: Polycythemia Vera; Cerebrovascular accident; Myeloproliferative neoplasm

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INTRODUCTION

Polycythemia Vera (PV) is a rare chronic myeloproliferative disorder arising because of genetic mutations in JAK2 V617F gene forming Janus kinase 2 (JAK2) protein[1], characterized by overproduction of red cells, granulocytes and platelets. Thromboembolism, myocardial infarction and stroke commonly occur as presenting symptom or complication.[2,3] A unique case is reported as the patient suffered a cerebrovascular accident with normal blood cell count two years back but diagnosis was established after workup of fresh complaints.

CASE

A 73 years old female presented with complaints of visual disturbance, shortness of breath, pain abdomen, and body aches with decreased appetite and disturbed sleep along with a history of Cerebrovascular accident (CVA) two years back. On physical examination she had splenomegaly and abdominal tenderness. Her blood pressure was 170/100 mm Hg, with a pulse of 86 beats/minutes. Her weight was 54 kg. Laboratory investigations are shown in Table-1. Ultrasound abdomen confirmed splenomegaly and normal kidneys. Peripheral blood film revealed raised haematocrit, trilineage hyperplasia and hypochromic microcytic picture that aroused the suspicion of Polycythemia Vera confirmed by Polymerase Chain Reaction for JAK2 mutation. Treatment was initiated with venesection of 500 ml/week for 4 weeks, capsule hydroxyurea and aspirin. After one month the lab investigations revealed normal cell counts as shown in table-1. This showed that with proper and timely use of Hydroxyurea for treatment of PV, thrombotic episodes, that are major cause of morbidity and disability in these patients, can be prevented.

DISCUSSION

Polycythemia Vera is a rare myeloproliferative neoplasm arising because of mutation in JAK2 (V617F) gene in 95% people and Exon 12 in 3% people leading to the formation of altered Janus Kinase 2 protein.[1] Thrombosis is the main complication which can lead to incidents like myocardial Infarction, Transient ischemic attack, cerebrovascular accidents which may present as the first and only symptom of Polycythemia Vera but this patient suffered a CVA one year prior to diagnosis of PV. A prior history of thrombosis is a risk for re-thrombosis. The risk of thrombosis is 10.9% in individuals of age more than 65 years who have a history of thromboembolic event in the past.[4] Untreated cases of Polycythemia Vera have a survival of 1.5 to 3 years however with the use of therapy it may be 14–24 years in patients less than 60 years of age.[5] A detailed history including the existing illness, previous history of thromboembolic incidents, cardiovascular risk factors, and other conditions that may cause Polycythemia should be questioned.

Table-1: Investigations for workup of PV

Test	Result (Initial)	Result (After treatment)	Normal value
TLC	24,600	10,200	4000–10500/µL
RBC total	8.61	3.7	3.8–5.8 m/µL
Hb	19.8	11	12.5–16g/dL
Platelets	687,000	568,000	150,000–400,000/µL
RDW	20%		11.5–14%
Hct	62.9		37–47%
ESR	4		6–20mm/h
MCV	73.1	95.9	78–100 fL
MCH	23.0	29.9	27–31 g/dL
MCHC	31.5	31.1	32–36 g/dL
Uric acid	8.9		2.6–6 mg/dL
Serum Creatinine	0.80		0.57–1.11 mg/dL

REFERENCES

1. Griesshammer M, Gisslinger H, Mesa R. Current and future treatment options for polycythemia Vera. Ann Hematol 2015;94(6):901–10.
2. Abdel-Rahman I, Murphy C. Recurrent ischaemic stroke unveils polycythaemia vera. BMJ Case Rep 2015;bcr2014207625.
3. Macovei L, Malanca M, Hărbieru M, Pavel D, Omete G, Nedelciuc I, *et al*. Acute myocardial infarction--a possible complication in polycythemia vera. Case report. 2006;110(2):319–21.
4. Adel G, Aoulia D, Amina Y, Aymen BA, Abdel-Hamid NM. Polycythemia Vera and Acute Coronary Syndromes: Pathogenesis, Risk Factors and Treatment. J Hematol Thromb 2013;1(107):2.
5. Marchioli R, Finazzi G, Specchia G, Cacciola R, Cavazzina R, Cilloni D, *et al*. Cardiovascular Events and Intensity of Treatment in Polycythemia Vera. N Engl J Med 2013;368(1):22–33.

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