INTRODUCTION

- Polycythemia or absolute erythrocytosis is defined as increase in hemoglobin (Hb) >16.5 gm/dL in men and 16.0 gm/dL in women, or hematocrit (Hct) >49% in men and >48% in women.
- It can be either acquired or congenital and is classified into primary or secondary forms.
- Primary polycythemia can be due to somatic mutations in the Janus Kinase 2 (JAK2) gene (98% cases) and germline mutations in the erythropoietin (Epo) receptor gene.
- Secondary erythrocytosis, which is characterized by inappropriately normal or raised serum Epo, is caused by rare congenital conditions such as high oxygen affinity Hb variants among many others.
- Over 200 hemoglobin variants with high oxygen affinity have been described in literature.
- Here we present a rare case of unexplained incidentally found erythrocytosis in a young Mexican man that was subsequently identified to be one of the high oxygen affinity Hb variants, Hb Tarrant.

CASE PRESENTATION

A 46-year-old Spanish speaking male referred to hematology for incidentally found polycythemia with Hb of 18.7 g/dL and Hct of 55.3%. His white blood cell count with differential and platelet counts were normal.

Pertinent history:
- non-smoker, does not have chronic cardiopulmonary conditions including obstructive sleep apnea.
- No medication use that might be associated with polycythemia such as testosterone or diuretics.
- He has no history of venous thromboembolism, strokes, myocardial infarctions or any known family history of polycythemia. He works in boat repair and painting.

Other labs:
- Erythropoietin level - high normal
- Extended JAK2 mutation panel was negative.
- Ultrasound abdomen: no hepatocellular or renal neoplasms

Hemoglobin electrophoresis by high performance liquid chromatography revealed Hb A, A2, F, and a Hb variant at retention time of 4.05 minutes. (Figures 1 and 2)

Proper identification of this rare but clinically significant Hb variant helps us guide appropriate management of absolute erythrocytosis and is helpful for family counseling.

REFERENCES