



Case Report

A closer look into blood group discrepancy arising due to an underlying malignancy



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ARTICLE INFO

Article history:

Received 20 February 2016

Accepted 11 April 2016

Available online 2 May 2016

Introduction

The ABH antigens are histo-blood group antigens that are present in circulating blood cells, tissues and body fluids. The association of blood groups with various disease states has been well documented in the literature. Both hematopoietic and non-hematopoietic malignancies are associated with blood group changes. In solid organ malignancies, excessive blood group substances produced by the tumor lead to blood group discrepancies.¹ However, such discrepancies are rare with a very few case reports in the literature. Herein, we describe an unusual case of a blood group discrepancy in a 48-year-old lady who was diagnosed with signet ring cell gastric adenocarcinoma.

Case description

A blood sample of a 48-year-old lady was received for blood grouping and cross-matching. Her hemoglobin, total leukocyte and platelet counts were 5.6 g/dL, 4800 cells/ μ L and 3.84×10^5 cells/ μ L, respectively. As per our protocol, we did

the preliminary blood grouping of the patient with unwashed cells using the tube technique to check availability of blood in our inventory. Forward grouping results were as follows: no agglutination with anti-A and anti-B antisera and, weak agglutination with anti-A,B monoclonal antiserum. Reverse grouping revealed A group. The results were similar with a repeat sample and column agglutination technology. Reaction with anti-A1 lectin was negative and reaction with anti-H lectin was 4+. The initial blood grouping was mimicking the Ax phenotype. As per her previous blood group records, she was A Rh D positive. The patient had a history of transfusion five years previously during a hysterectomy. The blood grouping was repeated after washing her red cells thrice with physiological saline (0.9%) as per the departmental standard operating procedure. Strong agglutination was noted with anti-A and anti-A,B (Figure 1). Reaction with anti-A1 lectin was positive and reaction with anti-H lectin was 4+. Hence, her blood group was confirmed as A1 Rh D positive. Saliva secretor status was also studied. She was a secretor of both A and H blood group substances.

Meanwhile, we gathered details of the patient's medical history. The patient was admitted two months previously

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<http://dx.doi.org/10.1016/j.bjhh.2016.04.007>

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