” Acquired B antigen”

Certain bacteria (eg, Escherichia coli K-12, Clostridium tertium) can produce and release a deacetylase enzyme into the circulation that converts the A1 antigen into a B-like antigen. Thus, individuals with A1 (which accounts for 80 percent of A phenotypes) are at risk for the acquired B antigen phenotype in the setting of expansion of these bacterial populations, as may occur in the setting of a necrotic tumor or bowel obstruction. Once the infection is successfully treated, the patient's ABO group will return to group A1 [31].

Individuals with the acquired B antigen should never be transfused with AB or B blood, because their naturally occurring anti-B alloantibody (see 'ABO antibodies' below) is likely to clear the transfused cells from the circulation at a rapid rate. However, this anti-B does not react with the patient's own RBCs with the acquired B antigen.