A 65 y.o., group A, 52 kg woman with relapsed lymphoma was thrombocytopenic (5,000/uL, 150,000-450,000/uL); prestorage irradiated leukocyte-reduced, pooled platelet concentrates (PLT) (5 group O donors) were transfused in 47 minutes.

There were no adverse events (AE), she was discharged home but 1.5 hours later returned with fever (103°F), rigors, dyspnea, cough, chest pressure, nausea, diarrhea and dark urine.

Hypotension and tachycardia developed; she was admitted to the ICU.

RESULTS

Post-transfusion blood and urine samples were obtained.

The PLT bag had been discarded.

Serial dilutions (with saline diluent) from the five donor testing tubes and a simulated PLT pool were performed, read at immediate spin (IS) and IgG (1 hr. at 37°C incubation).

The implicated donor # 5 demonstrated anti-A at IgG 37°C with a titer of 4096.

CONCLUSIONS

ABO-mismatched PLT transfusions result in good increments and the majority are free of significant AE.

Physicians must be aware of the potential risk of AHTR when platelets are transfused and that post-transfusion fever +/- chills is typically benign but should be rapidly investigated to rule out more serious AE.

PLT-associated AHTR has occurred with apheresis PLTs but is very rare with WBD PLTs. These two events could have been prevented by restricting ABO-incompatible plasma volumes in smaller-sized adults (via PLT concentration or use of platelet additive solution), donor anti-A titer screening or avoiding group O PLTs to non-O recipients.

As a precaution, we are now volume-reducing ABO-incompatible plasma in platelets to be transfused to all patients less than 60 kg body weight.