In conclusion, quantitative, morphologic and functional data, particularly when measured *in vitro* as PFA-PI using an ADP cartridge, showed that TC-cryopreserved platelets are at least as good as, and possibly superior to, DMSO-cryopreserved platelets.

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Anti-D immunoglobulin in children with newly diagnosed immune thrombocytopenic purpura: a pilot study

Treatment options for childhood immune thrombocytopenic purpura (ITP) include observation, steroids, intravenous gammaglobulin (IVIG) and splenectomy.[1] Recent studies[2-4] have shown that anti-D increases the platelet count in children with ITP but that the time to achieve a platelet count ≥ 20,000/μL is significantly longer than following IVIG.[5] We gave anti-D as a single intravenous dose of 50 μg/kg to 10 consecutive Rh positive children with newly diagnosed ITP.

Sir,

Newly diagnosed patients aged 6 months to 18 years with a clinical diagnosis of ITP based on history, physical examination and isolated thrombocytopenia with a normal blood smear, were eligible for entry into the study. Initial evaluation consisted of a history and physical examination, complete blood count with differential, blood type and direct Coombs' test. After informed consent had been obtained, all Rh positive, Coombs' negative patients were treated with one dose of intravenous anti-D (Winrho-SD, Univax Biologics, Inc, Rockville, MD, USA) 50 μg/kg over 5 minutes. Complete blood counts were done every 12 hours until the platelet count was ≥ 20,000/μL at which point the patient was discharged home. Response was defined as an increase in platelet count to ≥ 20,000/μL with cessation of bleeding. This study was approved by the institutional review board at Baystate Medical Center, Springfield, Massachusetts.

The patients' characteristics and results of treatment are presented in Table 1. Platelet counts for the first 40 hours post-anti-D are shown in Figure 1. All 10 patients responded to anti-D. The mean time to platelet count ≥ 20,000/μL was 22.3±11.4 hrs (median 16.4 hrs; range 12-39.5 hrs). Median post-anti-D peak platelet count was 253,000/μL occurring at a median of 8 days post-treatment. The average drop in hemoglobin was 1.27 g/dL ±0.7. Three patients were retreated for platelet counts < 20,000/μL. No allergic complications occurred, and no patients required transfusions secondary to anti-D-induced hemolysis. Two patients had mild headache 2-3 hours post-infusion; one also had emesis. All symptoms resolved with acetaminophen and diphenhydramine. Therapeutic options for childhood ITP remain controversial[5-7] and include IVIG, corticosteroids, anti-D or less commonly splenectomy. Anti-D has potential advantages over IVIG: lower cost[8] and fewer side effects (headache, vomiting, aseptic meningitis).[3,4,9] The presumed method of action for anti-D is saturation of Fc receptors in the spleen with antibody-coated red blood cells.

Blanchette *et al.*[5] randomized 146 children with ITP to receive low dose IVIG (0.8 g/kg), high dose IVIG (1 g/kg/day x2), intravenous anti-D (25 μg/kg/day x 2)

Table 1. Initial patient characteristics and results of treatment with anti-D (no.= 10). ***SD, standard deviation.***

	Mean (± SD)	*Median*	*Range*
Patient age (years)	5.0±3.2	4.6	0.8-11.5
Initial platelet count (per µL)	4,000±2,900	2,500	1,000-8,000
Anti-D dose (µg/kg)	49.6 ± 5.8	50.8	35.1-56.4
Time to platelets ≥ 20,000/µL (hrs)	22.3 ± 11.4	16.4	12-39.5
Peak platelet count (per µL)	262,000±202,000	253,000	20,000-689,000
Drop in hemoglobin (g/dL)	1.27±0.7	1.2	0.4-2.5
Retreatment	3 patients at 10, 16 and 65 days		

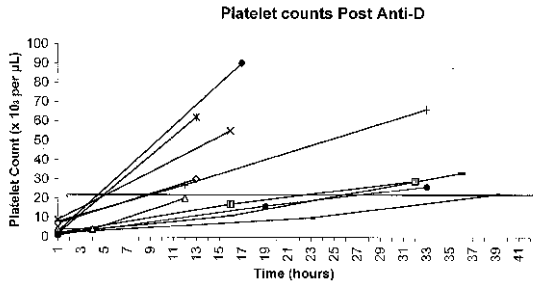

Figure 1. Platelet counts over the first 40 hours after anti-D (no.=10).

or prednisone (4 mg/kg/day orally, tapering off by day 21). Both the low and high dose IVIG arms were superior to anti-D in mean time to platelet count > 20,000/µL: 1.4 versus 2.9 versus 3.9 days, respectively. Tarantino *et al.*[10] retrospectively compared children receiving 0.8-1 g/kg IVIG (N=14) or 45-50 µg/kg anti-D (N=13) and reported a mean time to platelet count ≥ 20,000/µL of 1.26±0.82 days and 1.54±0.51 days. Although the number of patients in both our study and the study by Tarantino is small, the use of a single dose of 50 µg/kg rather than two daily doses of 25 µg/kg may have been the cause of the improved response time.

In conclusion, a single 50 µg/kg intravenous dose of anti-D produced a rapid increase in platelet count in children with newly diagnosed acute ITP. A randomized trial comparing higher doses of anti-D to IVIG in children with acute ITP appears warranted.

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Treatment of refractory ITP with extracorporeal immunoadsorption over a protein-A sepharose column: a report of two cases

Two females with refractory ITP underwent plasma immunoadsorption over protein A-sepharose columns. The immediate response to immunoadsorption was unsuccessful while anti-platelet and anti-HLA antibodies disappeared from serum. However platelets progressively rose to normal in the following months, medical therapy was gradually withdrawn and the patients remain in remission so far.

Sir,

Extracorporeal immunoadsorption of antibodies over a protein A-silica matrix (Prosorba®, USA) has been recently proposed among second line therapy for refractory chronic immune thrombocytopenia (ITP).[1-3] Plasma immunoadsorption over protein A-sepharose columns (Excorim/Citem 10 (EC10®),