Flow cytometry is performed using the ISHAGE technique with a Beckman Coulter CytoFLOW.

RESULTS Mean maternal age for CBU was 34y (range 26-45). Of 72 CBU donated (37 male, 35 female), delivery route was spontaneous vaginal for 50 (69.45%) and caesarian section for 22 (30.55%). Mean birth weight was 3341.5 g (median 3355; range 2296-4337). Mean gestational age was 38.92 weeks (median 39; range 36-41.14).

CONCLUSION Data on hematopoietic potential of low volume/low TNCC products are currently available only from a hybrid or private bank. Here we show that CBU below threshold TNCC and volume for public banks can have a significant number of CD34+ cells available for expansion and use in transplant.

Table 1
CBU variables; TNCC is pre-processing and CD34 post-processing

N=72	MEAN	MEDIAN	RANGE
COLLECTION VOLUME (ML)	77.40	78.5	27-164
TNCC (X10^9/UNIT)*	0.74	0.68	0.13-2.38
CD34+ CELLS X 10^6	2.79	1.92	0.09-23.94
VIABILITY (%)	94.44	95.5	88-99

*Pre-processing TNCC was not available on 2 CBU and they were excluded from analysis

Table 2
Correlation between collection volume and post-processing CD34+ cells (X 10^6)

	<60 mL (N=23)*	60-100 mL (N=34)	>100 mL (n=15)
Mean CD34+ cells	1.49	2.68	5.06
Median CD34+ cells	1.39	2.19	3.03
Range CD34+ cells	0.09-3.84	0.15-8.38	1.31-23.94

*Threshold

Table 3
Correlation between pre-processing TNCC(x 10^9/CBU) and CD34+ cells (x 10^6)

	<0.5 (n=14)	0.5-1 (n=29)	1-1.5* (n=20)	>1.5 (n=7)
Mean CD34+ cells	1.09	1.95	3.47	8.1
Median CD34+ cells	1.02	1.49	3.31	8.1
Range CD34+ cells	0.09-2.59	0.15-5.97	1.31-5.97	2.58-23.94

*Threshold

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"The role of growth medium in the potency of EPC-type 2 diabetes patients" (A study of ALDHbright as a marker of the potency of EPC)

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Background & Aim Background: Type 2 diabetes mellitus (T2DM) is a metabolic disease caused by insulin disruption, insulin secretion or both. Hyperglycemia occurs in diabetes, where long-term hyperglycemia causes an increase in oxidative stress, a decrease in antioxidants and an increase in pro-inflammatory factors that contribute to endothelial dysfunction. In these conditions where microenvironment is not right, the amount of available ATP is not adequate, causing a decrease in the number and potential of Endothelial Progenitor Cells (EPC) in playing its function and role in the decreased colonization process. In this preliminary study, the aim was to prove changes in microenvironment by adding growth media to improve the condition of the microenvironment (niche) in an in-vitro able to increase the number and potential of EPC

Methods, Results & Conclusion Method: Circulating EPC counts were calculated using a combination of expressions from CD34+ and CD133+ antigen surfaces using BD FACS Canto II flow cytometry, and the potential of EPC was done by adding ALDH bright staining. Then the EPC was isolated and cultured on the growth medium, then cultured for seven days. After that, the number of EPC circulating and the EPC potential is recalculated

Result The results of this study indicate that after the addition of growth medium and incubated for seven days, the number of EPCs increased by 413.20%, and 1,401.1% in the controlled and uncontrolled group. Also, the potential of EPC showed by express of ALDHbright was obtained at the end of incubation of 99.9%, in each group in diabetes.

Discussion This study illustrates that by adding a growth medium, it can restore microenvironment conditions to be better characterised by the ability of EPC to express bright ALDH which increases very high. Bright ALDH activity shows the ability to re-populating and differentiation and illustrates the operation of retinoids that have a pro-angiogenic effect with modulation of endothelial cell cytokines, the impact of migration and vasculogenesis.

Conclusion The addition of growth medium in EPC culture from peripheral blood improves microenviral conditions and can increase the amount of EPC and the potential of EPC associated with its role in the colonisation function.

Table 1
Result

	ControlledGroup		Uncontrolled Group	
	Mean (Pre-Culture)	Mean (Post-Culture)	Mean (Pre-Culture)	Mean (Post-Culture)
EPC (cell/mL)	72.64	372.79	24.86	373.17
EPC+ALDHbr (cell/mL)	71.36	372.72	18.08	372.86

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Retrospective review of cell doses in haploidentical hematopoietic stem cell transplant and associated outcomes

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Background & Aim Hematopoietic progenitor cell (HPC) transplant (HCT) products are routinely analyzed for infused dose of CD3+ T cells and CD34+ HPCs. Data on cell dose vs. patient (pt) outcomes in haploidentical (haplo) HCT are incomplete, preventing clear guidelines for dosing and storage of residual product. Some infuse a max 5-10 × 10^6 CD34+ cells/kg based on prior studies, but cutoffs haven't been investigated directly. This affects operations including collection time and freezer capacity. We analyzed cell products of haplo HCT pts at Ohio State University (OSU) to correlate to pt outcomes and identify cutoffs for cell dose.

Methods, Results & Conclusion 845 pts underwent allo HCT at OSU from 2011-2019, 87 were haplo HCT. We excluded pts with ex vivo product manipulation, and pts undergoing 2nd HCT. Kaplan Meier method was used to calculate survival rates and Cox proportional hazards models to estimate the effect of cell dose on outcomes.

79 pts met criteria. 47 underwent haplo HCT with an HPC, Marrow (HPC,M) product; 32 with a mobilized HPC, Apheresis (HPC,