SHORT COMMUNICATION

COMPARISON OF EFFICACY OF DIAL FLOW MICRODRIP SETS FOR HYPERVISCOUS FLUIDS

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ABSTRACT

Thie current study was conducted with an objective to compare efficacy of dial flow microdrip sets for hyperviscous fluids. Four different sets and two hyperviscous fluids were used to eliminate bias. The study was done by suspending buret sets which was attached with microdrip dial flow sets and set rate was 100 ml/min. we noted the time to flow 100ml. 3 sets were delivered fluid as per set rate with insignificant p value. Micro drip dial flow sets can be used for hyperviscous fluids.

Key words- Microdrip dialflow sets, Hyperviscous fluids, efficacy

BACKGROUND

Accurate fluid infusion (such as Hyper viscous fluids), and drug administration is crucial for the optimum management of a critically ill patients. Continuous and controlled intravenous delivery of common medications, such as inotropic agents, vasodilators, aminophylline, insulin, heparin, sedatives like propofol etc. via infusion pump is the preferred mode of therapy in acute care[1] .But infusion pumps are not available in all locations of hospitals and also cost is high to purchase and maintain[2],a large number of pumps. In this study, we used micro drip dial flow sets [precision Flow controller (dial type) can be set for 5-250 ml/hr-attached to I.V set and ideally suited for gravity infusions][1] to know efficacy of these sets in delivering hyper viscous solutions. These micro drip sets are cheaper and easy to use. we did this study in air (allowed the fluid to flow in to a tub) ,for this reason – no ethics committee approval and patients consent required for us.

Table-1: Comparison of HES and Gelofusine in One Hour

		No.	Mean	Std. deviation	Std. Error	95% confidence interval		Minimum	Maximum
						Lower Bound	Upper Bound		
Amount of HES In One Hour	1	8	60.50	1.60	0.56	59.15	61.84	58.00	63.00
	2	8	60.12	0.99	0.35	59.29	60.95	59.00	62.00
	3	5	83.60	5.59	2.50	76.65	90.54	75.00	90.00
	4	4	60.25	1-25	0.62	58.24	62-25	59.00	62.00
	Total	25	64.96	9.84	1.96	60.89	69.02	58.00	90.00
Amount of Gelofusine In One Hour	1	8	59.87	1.26	0.44	58.83	60.91	58.00	62.00
	2	8	60.00	1.30	0.46	58.90	61.09	58.00	62.00
	3	5	81.4	5.45	2.44	74.62	88.17	75.00	90.00
	4	4	59.75	1.70	0.85	57.03	62.46	58.00	62.00
	Total	25	64.20	9.12	1.82	60.43	67.96	58.00	90.00

MATERIALS AND METHODS

To test efficacy of dial flow sets for hyper viscous solutions, we used two Different hyper viscous solutions namely , 6% pentastarch [0.15-0.19 cps], Gelofusin [0.13-0.17 cps] (cps-centipoies units)[3] used.

To eliminate manufacturers variation, 4 different Sets-8 of Alfa,8 of Mediflow ,5 of Ramsons and 4 of Softy , were used for each fluid(total-50). 100ml of measured fluid was taken in to a buret set and These sets were tested by Suspending from an I/V stand allowed to

flow into air. Set the rate at 100 ml/hr and noted the time for Emptying of buret.

Data was analysed using SPSS version 13 (SPSS Inc, Chicago, IL).

RESULTS

Table 1 show observations obtained during one hour.

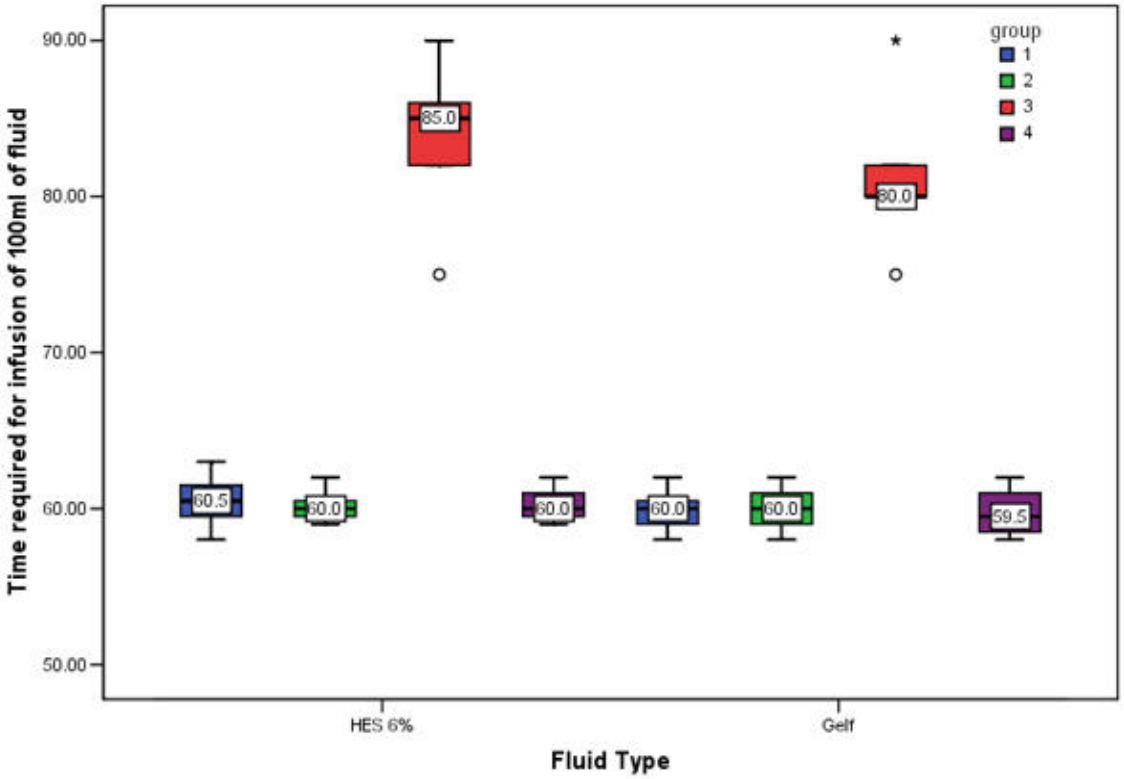

Fig 1: Time required for infusion of 100ml fluid according to different type of fluid

CONCLUSION

We conclude that micro drip dial flow sets can be used to deliver hyper viscous fluids with set rate but there is a difference between different manufacturers.

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