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Heparinized saline or saline alone to maintain peripheral intravenous flushing devices.
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Authoritative/official publications[1,2] recommended that normal saline should be used to maintain the patency of peripheral intravenous (IV) devices left in-situ for less than 48 hours only. The purpose of this recommendation is to augment aseptic technique when many patients are to receive such flushing, there being a risk that bags/vials of heparinized saline may become accidentally contaminated. Survey of the Department of Medicine's public wards (excluding ICU) revealed that 7 used heparinized saline for flushing the devices whereas 9 used saline alone. An audit of Ventflow (VF) device efficiency was conducted in 4 wards (2 male and 2 female) using flushing with heparinized saline and 2 (male and female) using saline alone. All patients were visited daily for 4 consecutive days and on alternate days for one week thereafter. Findings are summarised in the table:

	Heparinized saline		Saline	
Wards (sex)	A2, D2, Other (M)	B2, E2 (F)	D3 (M)	E3 (F)
No of Patients	186	207	109	140
Age (mean ± SD)	60 (±15)	64 (±17)	66 (±16)	64 (20)
Patient Nos with VFs (%)	49 (26%)	54 (27%)	22 (20%)	50 (36%)
Bed days	474	581	273	370
Bed days with VF	157	183	70	150
Nos 'requiring' change of VF	5	1	0	3
Days VF in-situ; mean(±SD)	3.8 (±4.0)	3.4 (±2.0)	3.6 (±2.0)	4.5 (±5.6)
No. of inflamed VF sites (%)	4/49 (8)	4/54 (7)	2/22 (9)	6/50 (12)

Overall, 27% of patients had VFs in-situ (33% of all bed days). In wards flushing VFs with heparinized saline and saline, 69% and 65% of the patients respectively had the devices in-situ for 48 hours or more. Site inflammation developed mainly on the second or third day. There were no clinically or statistically differences between patients whose VFs were flushed with heparinized saline or saline with respect to numbers having VFs changed or developing site inflammation. In this study with a small number of patients, there was no evidence to support use of heparinized saline flushes for VFs remaining in-situ for <48 hours.

1 The British National Formulary , Sep 96;32:107. 2 The HA Chief Pharmacist's Office Bulletin No 6, Aug 96

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ANGIOTENSINOGEN GENE AND HYPERTENSION IN CHINESE. Bernard MY CHEUNG, Raymond LEUNG, Kathryn TAN. University Department of Medicine, University of Hong Kong, Hong Kong.

Previous studies have shown a relationship between the M235T polymorphism (threonine instead of methionine at position 235) in the angiotensinogen gene and hypertension in Caucasians and Japanese. Hence, this study was undertaken to investigate if there is a similar association in Chinese. Genomic DNA was extracted from the peripheral leucocytes of 146 Chinese (64 patients with essential hypertension and 82 healthy controls) and amplified by PCR using standard primers and conditions. T or M alleles were identified after digestion with the restriction enzyme Tth 111 I and electrophoresis.

	n	TT	TM	MM
Normal controls	82	74%	23%	2%
Hypertensive patients	64	75%	25%	0%

The distribution of M235T genotypes in normal controls was similar to that found in Japanese and differed markedly from that in Caucasians, but there was no significant difference between hypertensives and controls. In a subgroup of 16 newly-diagnosed hypertensives in whom accurate pretreatment blood pressures were available, there was no significant relationship between blood pressure and genotype ($r = -0.19$, $p = 0.5$).

Our finding differed from previous reports and suggested that this polymorphism is not associated with hypertension in this population. It would be surprising if a genotype present in 3/4 of the normal population is the major factor for hypertension.