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Poster 080

The *in vitro* effects of heat shock protein 65 kDa on proliferation of A7r5 smooth muscle cells

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Background: Proliferation of vascular smooth muscle cells is one of the most important pathological processes involved in the development of intimal thickness in atherosclerosis. Recently, heat shock protein 65kDa (HSP65) has been implicated in the pathogenesis and propagation of this disease. The aim of this study was to examine the *in vitro* effects of HSP65 on the proliferation of rat aortic vascular smooth muscle cell line A7r5.
Method: Confluent A7r5 cells, subcultured into 96 well plates, were exposed to HSP65 at concentrations ranging from 10 ng/mL to 10 μg/mL, and incubated for 48 h. Fetal calf serum (FCS) of varying concentration (0·4–10·0 per cent) was then added and further incubated for another 24 h. Cell counts were carried out using a coulter counter and in parallel, cellular proliferation response was determined from the uptake and incorporation of 5-bromo-2'-deoxyuridine (BrdU).
Results: A7r5 cells ($n=8$) exposed to HSP65 showed increased proliferative responses when compared to controls (DMEM alone without HSP65) in a dose-dependent manner (Table). Growth inhibition was produced with 10 per cent FCS, as is normal with this cell line. This trend was observed with different concentration of FCS. Similar patterns of growth were obtained with the uptake of BrdU.

HSP65 (/ml)	FCS 0·4%	FCS 2·5%	FCS 5·0%	FCS 10·0%
0 (control)	34·3 ± 14·4	95·6 ± 13·3	82·1 ± 13·5	27·6 ± 4·4
10 ng	50·1 ± 17·6	123·4 ± 20·7*	119·8 ± 38·4	64·6 ± 15·1†
100 ng	52·0 ± 17·2	141·2 ± 26·0*	124·6 ± 6·9	106·5 ± 18·7†
1 μg	71·8 ± 21·1	161·6 ± 26·2†	136·1 ± 17·3	124·13 ± 12·7†
10 μg	65·0 ± 24·3	129·2 ± 29·1	147·5 ± 12·7*	84·3 ± 24·1†

Mann–Whitney U-test: *$P<0·05$, †$P<0·01$)

Conclusion: These results are the first to suggest that HSP65 *in vitro* may stimulate the growth and proliferation of vascular smooth muscle cells. Although the mechanisms are still unclear, this may involve the stimulation of growth promoting signal transduction pathways.

Poster 081

Inequalities in referral for carotid endarterectomy within the catchment area of a single regional vascular unit

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Background: Previous work has shown a 19-fold variation between health boards in the incidence of carotid endarterectomy (CEA). The present work describes, for the first time, geographic and socio-economic factors influencing the incidence of CEA within the catchment population (1·07 million, 1991 census) of a single regional vascular unit.
Method: Between 1986 and 1995, CEA rate (numbers of CEAs performed per head of population) was compared with admission rates for thromboembolic stroke (TES rate) [ICD-9 433, 434] for each referring local government district ($n=9$) and postcode area ($n=176$). CEA and TES rates were obtained from the Information and Statistics Division of the NHS. Socio-economic analysis was performed using Carstairs scores (Public Health Research Unit).
Results: There was a 2·5-fold variation in the CEA:TES ratio between districts (median 1:11, range 1:6–1:15). There was a significant correlation between CEA rate (median 1/3835, range 1/2319–1/7353) and TES rate (median 1/358, range 1/257–1/1186) for each district ($r=0·73$, $P=0·025$, Spearman). There was a positive correlation between CEA:TES ratio and higher socio-economic group (median Carstairs score −0·98, range −2·25 to +0·02). In 59 of 176 (34 per cent) of the postcode areas no patients underwent CEA during the study period.
Conclusion: Within the catchment area of this unit there are marked variations in the incidence of CEA. While this may reflect disease incidence, socio-economic factors and referral patterns of general practitioners have an equally important influence on access to CEA as a means of stroke prevention.

Poster 082

Bacterial translocation in patients undergoing abdominal aortic aneurysm repair

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Background: Bacterial translocation (BT) is associated with an increase in septic morbidity. The aim of this study was to determine the prevalence of BT in patients undergoing open repair of an abdominal aortic aneurysm (AAA).
Method: In this prospective study patients undergoing AAA repair were examined for evidence of BT by culture of an ileocolic mesenteric lymph node as well as samples of ileal serosa and mural thrombus. All postoperative septic complications were recorded.
Results: A total of 35 patients were investigated (29 male: 6 female) . In four patients a total of six organisms (three *E. coli*, one *Proteus mirabilis*, one *S. epidermidis* and one *S. Aureus*) were cultured. Septic complications occurred in two of the four patients with BT (50 per cent) compared to seven of 31 without evidence of BT (23 per cent, n.s.).
Conclusion: This study confirms that BT occurs in patients undergoing elective AAA repair and is associated with an increase in septic morbidity. It is intresting to speculate that the presence of intestinally derived bacteria in the mesenteric lymph nodes of patients undergoing elective clean surgery may be a causative factor in the development of late graft sepsis.

Poster 083

Influence of case mix and priority on outcome following arterial surgery

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Background: This study aimed to identify the influence of case mix and priority on outcome following arterial surgery.
Method: During the last 7 years, 1713 consecutive patients treated under a single consultant surgeon were entered prospectively onto a personalized computerized database. All patients had arterial surgery and were divided into three categories based on priority: elective, urgent or emergency.
Results:

	Number	Mortality	%
Elective	1149	49	4·3
Urgent	376	40	10·6
Emergency	188	45	23·9
Total	1713	134	7·8
Abdominal aortic aneurysm:			
Elective	207	13	6·3
Urgent	117	14	12
Emergency	61	18	29·5
Carotid endarterectomy	313	3	0·96
Thoracic aneurysm	41	17	41·5
Femoro-popliteal above knee	100	4	4
Femoro-popliteal below knee	146	7	4·8
Femoro-distal	155	19	12·2