• 系統編號	RC9911-0616		
• 計畫中文名稱	以血管窄化誘發腹主動脈瘤生成的機轉探討		
• 計畫英文名稱	Studying the Pathogenesis of Coarctation-Induced Abdominal Aortic Aneurysm		
• 主管機關	行政院國家科學委員會	• 計畫編號	NSC98-2320-B006-025-MY3
• 執行機構	國立成功大學解剖學科暨細胞生物與解剖學研究所		
• 本期期間	9808 ~ 9907		
• 報告頁數	0 頁	• 使用語言	中文
• 研究人員	江美治；林寶彥 JIANG MEEI-JYH；PAO YENLIN		
• 中文關鍵字	--		
• 英文關鍵字	--		
• 中文摘要	主動脈瘤在高齡族群的發生率高，若破裂是一種致死率很高的疾病。腹主動脈瘤通常發生在腎動脈與下端分叉處之間，佔動脈瘤的 80%。我們假設，將腎動脈下方的腹主動脈長期窄化會誘導動脈瘤的形成，並利用蘭嶼迷你豬來建立以血管窄化誘導腹主動脈瘤的動物模式。我們以臨床上廣泛使用的人工血管(Telfon-patch)，約 2 公分長，在腎動脈與下端分叉處之間進行漏斗狀窄化，讓下端的管徑大約減半而上端則不變。對照組(sham)亦以人工血管環繞但未進行窄化。以窄化下游端與腎動脈上端的管腔比進行分析，在窄化手術後 8 週與 12 週，窄化下游端的內徑膨大均超過 50% (8w: 1.61±0.152, n=6; 12w: 1.68±0.148, n=6; sham: 0.90±0.039, n=5)。Hematoxylin & eosin 的染色結果顯示，血管中層變薄而外層則較肥厚。彈性纖維在窄化手術後 4 週，其數目減少，在手術後 8 週與 12 週，其減少與斷裂更加明顯。膠原蛋白於血管外層的分布，在窄化手術後 8 週似有增加，在手術後 12 週則減少。相對地，彈性纖維在窄化的上游端亦減少，但較不明顯，而腎動脈上方的腹主動脈則無顯著的變化。以上的結果顯示，藉由長期窄化末端的腹主動脈以改變血流狀態，會誘導腹主動脈瘤的生成。		
• 英文摘要	Aneurysms have high prevalence in aged populations and exhibit high mortality when rupture. Abdominal aortic aneurysm (AAA), usually occurring between renal arteries and the iliac bifurcation, accounts for 80% of aneurysm. We hypothesized that long-term coarctation of an infrarenal abdominal aorta (AA) segment leads to AAA formation and attempted to establish a coarctation-induced AAA model in Lanyu mini pigs. A tapered coarctation was performed by suturing Teflon-patch around an isolated 2-cm infrarenal AA segment to decrease vascular diameter approximately 50% at the bottom. The sham control received Teflon-patch wrapping without coarctation. Over 50% dilatation was detected in the lumen of distal AA segments at 8 weeks (8w) and 12 weeks (12w) post-coarctation assessed by lumen ratio of distal segment to suprarenal segment (8w: 1.61±0.152, n=6; 12w: 1.68±0.148, n=6; sham: 0.90±0.039, n=5). Concomitantly, medial thinning and adventitial hypertrophy were detected in hematoxylin-and-eosin-stained cross sections. Elastic fibers decreased at 4 weeks and appeared more fragmented and further decreased at 8w and 12w post-coarctation. Collagen fibers increased in the adventitia at 8w but decreased at 12w post-coarctation. In contrast, elastic fibers decreased less in the proximal AA segment and didn’t change significantly in the suprarenal AA. These results indicate that changing flow pattern in terminal abdominal aorta with long-term coarctation induces AAA.		