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• 計畫中文名稱	酒精作於肺靜脈心肌細胞之促心律不整的機轉		
• 計畫英文名稱	Melanomas of Ethanol on the Arrhythmogenic Activity of Pulmonary Vin Crdiomyocytes		
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• 中文關鍵字	酒精; 肺靜脈; 心肌細胞; 心律不整; 酒精中毒		
• 英文關鍵字	Alcohol; Pulmonary vein; Cardiomyocyte; Arrhythmia; Alcoholism		

• 中文摘要	酒精使用在過去被認爲是造成陣發性心房顫動之重要原因，肺靜脈已知會造成心房顫動，本研究的主要目的在於探討是否酒精會透過增加肺靜脈心肌細胞引發心律不整活性來造成心房顫動。藉著全細胞箝定技術，測量肺靜脈心肌細胞接受酒精後所造成之離子流及動作電位得變化。與對照組比較發現肺靜脈無論接受 0.3 mg/ml 或 1 mg/ml 的酒精都可出現較短之動作電位間距，但卻有相同的自動節律 (2.6±1.3 Hz， 2.7±1.2 Hz， 2.7±1.2 Hz)以及造成遲緩型之動作電位去極化 (45%， 41%， 32%)，肺靜脈心肌細胞於接受酒精後會有較少之 L 型鈣離子流，以及較大之暫時性外向鉀離子流，但有相當之暫時性內向離子流、延遲加強型之外向離子流、以及相似之內向加強型離子流及節律離子流。這些結果顯示：酒精不直接改變肺靜脈心肌細胞引發心律不整活性。
• 英文摘要	Ethanol consumption has been considered to contribute to the occurrences of paroxysmal atrial fibrillation (AF). Pulmonary veins (PVs) are known to initiate AF. This study investigated whether ethanol may induce AF through increasing arrhythmogenic activity of PV cardiomyocytes. Using the whole-cell clamp technique, the action potential and ionic currents were investigated in rabbit single PV beating cardiomyocytes with and without (control) incubation of ethanol. Compared with control cardiomyocytes, PV cardiomyocytes receiving 0.3 mg/ml or 1 mg/ml ethanol had shorter action potential duration, but had similar beating rates (2.6 .plmin. 1.3 Hz, 2.7 .plmin. 1.2 Hz, 2.7 .plmin. 1.2 Hz) and incidences (45%, 41%, 32%) of delayed afterdepolarization. PV cardiomyocytes receiving ethanol had smaller L-type calcium currents and larger transient outward currents, but had similar transient

inward, delayed rectified outward, inward rectified and pacemaker currents. These results suggest that ethanol did not change the arrhythmogenic potential of PV cardiomyocytes with little effect on automaticity and triggered activity.