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腎友週報

安慎、中慎、惠慎
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醫療新知

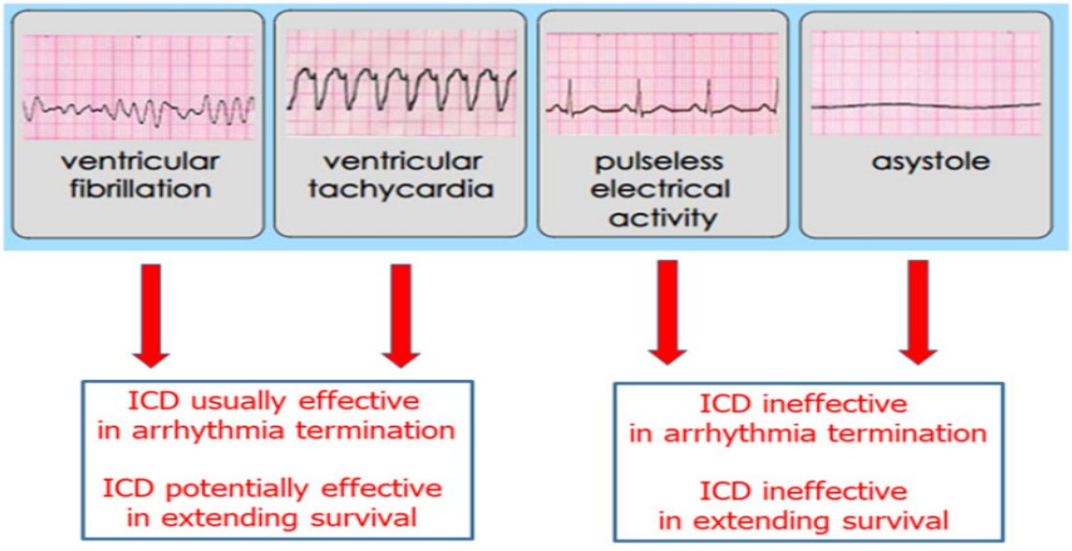
論透析病患之猝死 4

預防

- 透析猝死的發生率雖然低，死亡率卻非常高，嚴重心律不整發作的兩天內，就有六成病患死亡，其中一成三病患更在到院前死亡，因此預防非常重要，可從風險因子下手。
- 高血壓、高血脂、心血管疾病、糖尿病為洗腎者之常見共病，也是慢性病無法根除，但長期小心控制達標可說是基本盤。
- 水分、鉀離子、鈣離子能藉由：飲食節制、防止便秘、注意血磷、改善維他命 D 缺乏、抑制副甲狀腺亢進、避免過低的透析液鉀/鈣和過高的透析脫水量，來妥善管控，降低猝死發生。
- 此外，降低透析液溫度和適度增加透析頻率，可以減少透析中掉壓引發的心臟供血不足並改善左心室肥大，因此可能有助減少猝死。
- 藥物部分，傳統上經證實能延長心血管疾病患者壽命的，包含乙型交感拮抗劑(beta blocker)、血管張力素抑制劑(ACEI/ARB)、降膽固醇藥(statin)，很可惜當用在透析病患身上，研究成果莫衷一是。針對心因性猝死或嚴重心律不整再發之預防，有系統性回顧顯示心律不整藥 amiodarone 有效，並可延

長病患壽命；但所有受試者皆無洗腎。所以就目前之科學證據，沒有藥品能預防透析病患的猝死。

- 植入性體內去顫器(ICD) 常用於預防心因性猝死，已被證實可預防猝死提升存活率，嚴重心衰竭(LVEF<35%)且預期餘命超過一年，或是發生過非可逆因素(如高血鉀)引發之心室顫動(VF)/生命徵象不穩的心室頻脈(VT)，皆為現今使用 ICD 之適應症。但在透析病患，ICD 的好處大幅降低，在預防猝死不僅無用，ICD 的多項副作用包含血腫、靜脈血栓/狹窄、感染更明顯增加。不過，在發作後幸運免於猝死之透析病患，ICD 還是有預防再發、提升存活的功用。
- 為何 ICD 在透析病患的效果那麼差，可能歸因於發生的心律不整無法以電擊處理，例如心跳停止(asystole)。此外，透析病患可因高血鉀、酸中毒引發心律不整，這些根本的病因若不去除，縱然電擊一時有效，仍會迅速再發，終致猝死。



the arrhythmias potentially leading to SCD and the role of ICD therapy.

Possible Strategies for SCD Prevention in HD Patients

General Strategy	Specific Intervention
Manage cardiomyopathy	
Systolic Dysfunction	Use carvedilol in patients with dilated cardiomyopathy
Diastolic dysfunction/LVH	Consider more frequent HD to reduce left ventricular mass; consider use of spironolactone, ACE inhibitors, or ARBs
Minimize arrhythmic triggers	
Potassium shifts	Monitor pre-dialysis potassium frequently, especially after hospitalization and change dialysate bath accordingly; avoid low (< 2 mEq/L) potassium baths; consider potassium modeling and potassium binding agents to reduce interdialytic hyperkalemia
Calcium shifts	Avoid low (< 2.5 mEq/L) calcium baths, especially with concurrent use of QT interval prolonging medications
Metabolic alkalosis	Avoid high dialysate bicarbonate concentrations in alkalotic patients; account for all sources of base in dialysate, including acetate
Rapid ultrafiltration	Encourage patient adherence to salt and fluid restrictions; avoid sodium ramping and large dialysate/serum sodium gradients; extend dialysis time so that ultrafiltration rates do not exceed 10 ml/kg/hr
Dialysis-induced myocardial ischemia	Lower dialysate temperature to between 0.5°C and 2°C below patient temperature to reduce intradialytic hypotension
Medications	Avoid QT interval prolonging medications whenever possible and reconcile medication list regularly
Weigh risks and benefits of ICDs	Consider ICDs for secondary prevention; increase communication between nephrologists and cardiologists to consider risks and benefits of primary prevention ICDs; consider leadless defibrillators to reduce vascular and infectious risks
Improve response to cardiac arrest	Increase dialysis clinic staff awareness of cardiac arrest risk and readiness to provide basic life support; encourage awareness and CPR training among patients and families

結語

- 心因性猝死為洗腎之重大併發症，也是病患之首要死因，發生率為一般人的20~30倍，不可等閒視之。除了控制冠心症、心衰竭、三高，腎友應注意水分控制、維持足量透析(次數/時間)、飲食控制並定時排便避免高血鉀、留心鈣磷平衡(飲食、運動、副甲狀腺)、不自行增刪用藥，配合定期追蹤X光、心電圖、心臟超音波，觀察是否有嚴重打鼾或心雜音，若有異常則可轉診心臟科，早期發現早期治療。
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