

## 醫療新知

### 洗腎中進食會帶來什麼風險

- 有些腎友會在洗腎過程中進食，原因不外乎是上班沒時間、肚子餓。然而，根據國外研究，此舉會導致若干風險。
  - 容易導致血壓下降，增加透析中低血壓的風險。不論有無症狀，都會增加心律不整、心肌梗塞風險，甚至加速消耗剩餘腎功能。

Interventional studies evaluating the effect of eating during dialysis on intradialytic hemodynamic stability

Patient characteristics	Year	n	Age (years)	Dialysis parameters	Meal	Timing of food digestion	Postprandial BP response	Incidence of IDH	References
Stable nondiabetic dialysis patients	1988	9	51	Bicarbonate acetate DialNa: 138–140 mEq Blood flow: 250–400 mL/min	White bread, turkey, mayonnaise, pound cake, cranberry juice	2 h on dialysis	↓	↑	Sherman <i>et al.</i> [13]
Stable dialysis patients without history of heart failure	1989	13	52	Acetate DialNa: 138 mEq Blood flow: 250–400 mL/min	White bread, sirloin steak (100 g), water fruit juice	1 h on dialysis	↓	↑	Zoccali <i>et al.</i> [14]
Stable dialysis patients non-prone to IDH	1993	10	58	Bicarbonate DialNa: 135 mEq Blood flow: 250–350 mL/min	Toast, two boiled eggs, marmalade, butter and fruit juice	1 h on dialysis	↓	↑	Barakat <i>et al.</i> [12]
Stable dialysis patients	1998	21	55	Bicarbonate acetate DialNa: 140 mEq	Standard meal (450–600 kcal)	1 h on dialysis	↓	N/A	Shibagaki and Takaichi [22]
Stable nondiabetic dialysis patients	2008	20	65.6	Bicarbonate Blood flow: 200–500 mL/min Dialysate flow: 800 mL/min Temperature 36°C	Chicken sandwich, two digestive biscuits and 150 mL of lemonade	45 min on dialysis	↓	N/A	Sivalingam <i>et al.</i> [28]
Stable dialysis patients	2016	48	N/A	Bicarbonate Blood flow: 250–350 mL/min	Standard meal (350 kcal)	1 h versus 2 h on dialysis	↓	N/A	Borzou <i>et al.</i> [17]

- 透析中進食大於200卡路里，會提高兩倍透析中低血壓風險。進食液態食物甚至會提高風險到三倍。
- 透析效率降低。許多研究都指出，透析中進食會降低清除率Kt/V。

Interventional studies evaluating of intradialytic food consumption on dialysis adequacy

Patient characteristics	Year	n	Age (years)	Dialysis parameters	Meal	Timing of meal digestion	Change in URR	Change in KtV	References
Stable dialysis patients	2001	14	60.0	Bicarbonate Blood flow: 350–400 mL/min Dialysate flow: 500 mL/min	Free oral intake	N/A	↓	↓	San Juan <i>et al.</i> [16]
Stable dialysis patients	2004	42	55.4	Bicarbonate Dialyzer: high-flux	Variable meals containing 0.4 g/kg protein	2 h before dialysis	Unchanged	Unchanged	Singri <i>et al.</i> [31]
Stable nondiabetic dialysis patients without evidence of autonomic neuropathy	2010	25	56.5	Bicarbonate DialNa: 140 mEq Blood flow: 200–450 mL/min Dialysate flow: 500 mL/min Temperature: 36°C	White bread, white cheese, tea	1 h on dialysis	↓	↓	Kara and Acikel [32]
Stable dialysis patients without overt cardiovascular disease	2014	40	71.0	Bicarbonate Blood flow: 300 mL/min	2–3 slices white bread, cheese marmalade, beverage	2 h on dialysis	N/A	↓ <sup>a</sup>	Muller-Deile <i>et al.</i> [15]

- 在2011到2014間，美國有二到三成的透析院所禁止患者於透析中進食。
- 2007 European Best Practice Guidelines on intradialytic hemodynamic stability，也建議透析中不要進食。
- 總結來說，透析中進食會導致透析中低血壓風險增加和降低清除率。就算進食有可能讓營養狀態變好，這也不足以抵銷增加的風險。

參考資料

- Feeding during dialysis—risks and uncertainties Rajiv Agarwal and Panagiotis Georgianos' Nephrol Dial Transplant. 2018 Jun; 33(6): 917 - 922.

資料來源：惠慎診所洗腎室

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