

# 淺談食物與藥物交互作用

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食物真得會影響藥物的作用嗎？

新聞曾報導過，降血脂藥加上紅麴膠囊，容易導致肝腎的損傷。

食物和藥物不當的組合會傷身，兩者之間到底是如何互相影響呢？

食物對藥物的影響不外乎在干擾吸收、分佈、代謝、排除或藥理加成、拮抗作用。其中以影響吸收及代謝最為常見，食物和藥物直接結合，降低藥物的吸收；或者食物改變了胃液的酸鹼值、增加或者縮短胃腸的排空時間和速度，到最後改變藥物的吸收，使藥物的臨床療效受到影響。

牛奶等含有陽離子的食物可能會與部分藥物(如：四環素、fluoroquinolones 類的抗生素、bisphosphonate 雙磷酸類的骨質疏鬆用藥等)結合而減低其吸收，因此兩者服用時需隔 1~2 小時。高蛋白、低碳水化合物的飲食會增加部份藥物的代謝。葡萄柚汁則是透過改變肝臟的代謝酵素，會與許多藥物，例如某些降血壓藥物，產生藥效加成的交互作用。含酒精的食物或飲料會加成抗焦慮、鴉片類等藥物鎮靜的副作用，使用時應注意。此外，富含維生素 K 的食物則會拮抗

warfarin 抗凝血作用。

## 本院藥物與食物或中草藥/健康食品的交互作用

### 避免與食物併服的藥品

食物(Food)	藥品(Drug)	作用(Effect)	建議(Suggestions)	Risk Rating
含鈣食品：牛奶或奶製品、優格、鈣片等 Milk or food with calcium ion	Tetracyclines 類抗生素 院內現有藥品： Doxycycline、 Minocycline 等	鈣質與藥物結合成複合物，干擾藥品之吸收，降低藥品療效 Administration with iron or calcium may decrease drug absorption	飯前 1hr 或飯後 2hr 服用	D
	Quinolones 類抗生素 院內現有藥品： Ciprofloxacin		服藥前 2hr 或服藥後 6hr 再食用 Avoid or take ciprofloxacin 2 hours before or 6 hours after antacids, dairy products, or calcium-fortified juices alone or in a meal containing >800 mg calcium, oral multivitamins, or mineral supplements containing divalent and/or trivalent cations	D
富含維他命 K 食物(foods rich in vitamin K): 花椰菜 Cauliflower、豆莢 pod、包心菜 cabbage、菠菜 spinach、蘆筍 asparagus、萵苣 lettuce、深綠色蔬菜 dark green vegetables、綠茶 green tea、人蔘 ginseng 等	抗凝血劑(例如:Warfarin)	因含維他命 K 的食物會拮抗 warfarin 的抗凝血作用，使療效降低 The anticoagulant effects of warfarin may be decreased if taken with foods rich in vitamin K	避免大量食用，如需併用嚴密監測藥物效果 Maintain a consistent diet; consult prescriber before making changes in diet. Take warfarin at the same time each day	C
富含 tyramine 之食物: 魚干 air-dried or cured meats、味增湯、紅酒、生啤酒 draft beers、酪梨、香蕉酵母、乳酪 cheese、起司、醬油 soy sauce、fava 蠶豆、優格、酸奶油、醃漬品、精緻肉品如香腸 sausages、燻肉、醃肉 cured meats、培根等	MAOI 類抗憂鬱藥(例如:Selegiline 等)	抑制 tyramine 的代謝，容易造成高血壓的危象 may cause sudden and severe high blood pressure (hypertensive crisis or serotonin syndrome)	避免服用含 tyramine 的食物 Avoid tyramine-containing foods	
葡萄柚汁 Grape juice	Calcium channel blocker 類降壓藥 院內現有藥品： Nifedipine、 Felodipine、 Amlodipine、 Verapamil、 Diltiazem(*1)	葡萄柚汁中含類黃酮，會抑制肝臟內的重要的代謝酵素(CYP3A4)，使藥物延緩代謝，會增加副作用 Increased drug concentrations resulting in therapeutic and vasodilator side effects, including severe hypotension and myocardial ischemia	避免併服 Avoid concurrent use	X(Nifedipine) D(Felodipine、 Amlodipine)、 C(Verapamil、 Diltiazem)

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	HMG-CoA Reductase inhibitor 類降血脂藥 院內現有藥品: Simvastatin、Atorvastatin(*2)	葡萄柚汁中含類黃酮，會抑制肝臟內的重要的代謝酵素(CYP3A4)，使藥物延緩代謝，會增加副作用 Simvastatin serum concentration may be increased when taken with grapefruit juice	服藥期間需避免飲用大量的葡萄柚汁 Avoid concurrent intake of large quantities of grapefruit juice (>1 quart 夸特(473ml) / day)	D
	Azole antifungal 類抗黴菌藥 院內現有藥品: Fluconazole、Itraconazole、Voriconazole	降低藥品療效 Grapefruit juice may impair the absorption of itraconazole capsules, resulting in decreased antifungal effects	避免併服 Avoid concurrent use	C
	鎮靜安眠類藥物 院內現有藥品: Diazepam、Midazolam、Triazolam、Estazolam(*3)	使藥品作用的時間延後 Grapefruit juice may increase drug serum concentrations	避免併服 Avoid concurrent use	D
高纖維食品 Food with fiber	Digoxin	減少藥品的吸收 may decrease oral absorption of digoxin	避免併服 Avoid concurrent use	
咖啡因(咖啡、巧克力、可樂等) caffeine	Quinolones 類抗生素 院內現有藥品: Ciprofloxacin	會造成心悸、手抖、興奮等作用	如果發現有中樞神經過度刺激的情形，咖啡的攝取需減量 Restrict caffeine intake if excessive cardiac or CNS stimulation occurs	C
含鐵之維他命或飲食 (例如：黑糖 brown sugar、黑芝麻 black sesame seeds、紅莧菜 red amaranth、紅豆 red beans、黑豆 black beans、動物肝臟 livers、瘦肉 lean meat、黃豆 soybean、菠菜 spinach、雞蛋 eggs、蝦 shrimp、紫菜 laver、海帶 kelp、黑木耳 black fungus 等)	Quinolones 類抗生素 (例如: Ciprofloxacin	降低藥物的吸收。 Ciprofloxacin serum levels may be decreased if taken with divalent or trivalent cations.	飯前 2hr 或飯後 6hr 服用 Avoid or take ciprofloxacin 2 hours before or 6 hours after antacids, dairy products, or calcium-fortified juices alone or in a meal containing >800 mg calcium, oral multivitamins, or mineral supplements containing divalent and/or trivalent cations.	D
	Tetracyclines 類抗生素(例如: Doxycycline)	降低藥物的吸收 Administration with iron or calcium may decrease doxycycline absorption		D
紅麴(Red yeast rice)	HMG-CoA Reductase inhibitor 類降血脂藥 院內現有藥品: Simvastatin、Atorvastatin、Fluvastatin、pitavastatin、pravastatin、rosuvastatin	增加藥物毒性：肌痛、橫紋肌溶解 Red yeast rice contains an estimated 2.4 mg lovastatin per 600 mg rice	服藥期間需避免食用 Avoid concurrent intake	X

## 避免與中草藥/健康食品併服的藥品

中草藥/健康食品 Herb/Nutraceutical	藥品(Drug)	作用	建議(Suggestions)	Risk Rating
當歸 dong quai、聖約翰草 St John's wort	Tetracyclines 類抗生素 院內現有藥品: Doxycycline、 Minocycline 等	聖約翰草、當歸可能會降低藥物的血中濃度，也可能造成光敏感 St John's wort may decrease doxycycline、minocycline and ciprofloxacin levels and may also cause photosensitization	避免併服 Avoid concurrent use when take doxycycline、minocycline and ciprofloxacin	
	Quinolones 類抗生素 院內現有藥品: Ciprofloxacin			
西洋參 ginseng (American)、coenzyme Q10、聖約翰草 St John's wort、酸果莓 cranberry、胡蘆巴 fenugreek、銀杏 ginkgo biloba、維骨力 glucosamine、紫花苜蓿 alfalfa、八角 anise、覆盆子 bilberry、菠蘿 bromelain、芹菜 celery、黃春菊 chamomile、彩葉草 coleus、冬蟲夏草 cordyceps、當歸 dong quai、月見草油 evening primrose oil、小白菊 feverfew、大蒜 garlic、薑 ginger、三七 ginseng (Panax)、西伯利亞參 ginseng (Siberian)、葡萄 grapeseed、green tea 綠茶、七葉樹種子 horse chestnut seed、h 辣根 orseradish、甘草 licorice、ω-3 脂肪酸 omega-3-acids、花椒 prickly ash、紅三葉草 red clover、靈芝 reishi、S-腺苷甲硫氨酸 S-AdoMet (s-adenosylmethionine)、草木犀 sweet clover、薑黃 turmeric、白柳 white willow	抗凝血劑(例如:Warfarin)	可能會降低 warfarin 的療效 May change warfarin levels and effects	避免併服 Avoid concurrent use	D
纈草 valerian、聖約翰草 St John's wort、卡瓦卡瓦 kava kava、S-腺苷甲硫氨酸 S-AdoMet (s-adenosylmethionine)	MAOI 類抗憂鬱藥(例如:Selegiline 等)	可能增加 serotonin 過量的危險和引發嗜睡的危險 may increase risk of serotonin syndrome and/or excessive sedation	避免併服 Avoid concurrent use	
herbs with hypertensive properties (楊梅 bayberry、藍升麻 blue cohosh、辣椒 cayenne、麻黃 ephedra、薑 ginger、美國西洋參 ginseng (American)、科拉 kola、甘草 licorice、育亨賓 yohimbe)  herbs with hypotensive properties (St John's wort 聖約翰草、黑升麻 black cohosh、加州罌粟 California poppy、彩葉草 coleus、金印 golden seal、山楂 hawthorn、槲寄生 mistletoe、長春花 periwinkle、奎寧 quinine、薔花 shepherd's purse)	Calcium channel blocker 類降壓藥 院內現有藥品: Nifedipine、 Felodipine、 Amlodipine、 Lacidipine、 Verapamil、 Diltiazem	聖約翰草可能會降低藥物的濃度 St John's wort may decrease drug levels	避免和可能升高或者降低血壓的草藥併用 Avoid concurrent use of herbs with hypertensive and hypotensive properties	C

聖約翰草 St John's wort	HMG-CoA Reductase inhibitor 類降血脂藥 院內現有藥品: Simvastatin、 Atorvastatin、 Pravastatin	可能會降低藥物的濃度 St John's wort may decrease drug levels	避免併服 Avoid concurrent use	C
聖約翰草 St John's wort	Azole antifungal 類抗黴菌藥 院內現有藥品: Itraconazole、 Ketoconazole、 Voriconazole	可能會降低藥物的濃度 St John's wort may decrease drug levels	聖約翰草和 voriconazole 的併用為禁忌 Concurrent use of St John's wort with voriconazole is contraindicated	X
聖約翰草 St John's wort	Macrolide 類抗生素 (例如:Erythromycin、 Clarithromycin 等)	可能會降低藥物的濃度 St John's wort may decrease drug levels	避免併服 Avoid concurrent use	C
聖約翰草 St John's wort、育亨賓 yohimbe、卡瓦卡瓦 kava kava、纈草 valerian、積雪草 gotu kola	鎮靜安眠類藥物 院內現有藥品: Diazepam、 Alprazolam、 Midazolam、 Triazolam、 Clonazepam	St John's wort and Yohimbe may decrease drug levels. 聖約翰草和育亨賓可能會降低藥物的濃度和功效 Kava kava, valerian, and gotu kola may increase CNS depression 卡瓦卡瓦、纈草、積雪草會加強藥物的鎮靜作用	避免併服 Avoid concurrent use	C
麻黃 ephedra、天然甘草 natural licorice、聖約翰草 St John's wort	Digoxin	Ephedra: risk of cardiac stimulation 麻黃可能會造成心肌的刺激 Natural licorice: causes sodium and water retention and increases potassium loss 甘草會造成鈉和水的滯留並增加鉀的流失 聖約翰草會減少藥物血中濃度 St John's Wort may decrease the serum concentration of Cardiac Glycosides	避免併服 Avoid concurrent use 監測 Digoxin 的血中濃度和療效 Monitor serum concentrations /therapeutic effects of cardiac glycosides if St John's Wort is initiated/dose changes	C
甘草 natural licorice	Potassium-sparing Diuretics 類利尿劑 (例如:Moduretic、 Spironolacton)	Due to mineralocorticoid activity Licorice may enhance the hypokalemic effect of Thiazide Diuretics	避免併服 Avoid concurrent use	C
積雪草 Gotu kola、纈草 valerian、卡瓦卡瓦 kava kava	止痛劑類藥品 院內現有藥品: Morphine、Meperidine、 Fentanyl、Codeine、 Alfentanil、Tramadol)	可能會增加抑制中樞神經的作用 may increase CNS depression	避免併服 Avoid concurrent intake	

\*1: Lacidipine 未查到

\*2: Exceptions :Fluvastatin(lexscol), pitavastatin(livalo), pravastatin, and rosuvastatin---low risk

\*3: Exceptions :Lorazepam(Ativan)--- are probably unaffected by grapefruit juice , Alprazolam and Clonazepam is unlikely to be increased by grapefruit juice because of their high oral bioavailability.

herbs with hypertensive properties (bayberry, blue cohosh, cayenne, ephedra, ginger, ginseng [American], kola, licorice)

herbs with hypotensive properties (black cohosh, California poppy, coleus, garlic, goldenseal,

hawthorn, mistletoe, periwinkle, quinine, shepherd's purse)

## Reference: UpToDate Lexi-Interact™ Online

Risk Rating	Action	Description
A	無已知的交互作用 No Known Interaction	臨床證據顯示在藥效學和藥動學方面沒有交互作用存在 Data have not demonstrated either pharmacodynamic or pharmacokinetic interactions between the specified agents
B	不需採取其它的動作 No Action Needed	臨床證據顯示併用時交互作用發生的可能性很小。 Data demonstrate that the specified agents may interact with each other, but there is little to no evidence of clinical concern resulting from their concomitant use.
C	監測療效及副作用 Monitor Therapy	臨床資料顯示併用時可能有明顯的交互作用，需要時可能要調整劑量及適當監測副作用的發生。 Data demonstrate that the specified agents may interact with each other in a clinically significant manner. The benefits of concomitant use of these two medications usually outweigh the risks. An appropriate monitoring plan should be implemented to identify potential negative effects. Dosage adjustments of one or both agents may be needed in a minority of patients.
D	考慮用藥和治療選擇的調整 Consider Therapy Modification	臨床資料顯示併用時可能有明顯的交互作用，需依病人差異性評估併用是否有利益，必要時需持續監測、調整劑量，或改用其它藥品。 Data demonstrate that the two medications may interact with each other in a clinically significant manner. A patient-specific assessment must be conducted to determine whether the benefits of concomitant therapy outweigh the risks. Specific actions must be taken in order to realize the benefits and/or minimize the toxicity resulting from concomitant use of the agents. These actions may include aggressive monitoring, empiric dosage changes, choosing alternative agents.
X	避免併用 Avoid Combination	臨床資料顯示併用時有明顯的交互作用，且風險大於可獲得的利益，兩者併用列為禁忌。 Data demonstrate that the specified agents may interact with each other in a clinically significant manner. The risks associated with concomitant use of these agents usually outweigh the benefits. These agents are generally considered contraindicated.