肝硬化治療指引

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証 據 等 級

Ⅰ.至少一個設計精良的隨機對照研究
Ⅱ.設計精良的追蹤或病例對照研究
Ⅲ.病例系列、病例報告或有瑕疵的臨床研究
Ⅳ.專家的臨床經驗，記述型研究或專家會議的報告

胃食道靜脈曲張發生之預防
Pre-primary prophylaxis

李發耀 (Fa-Yauh Lee)

建議一 Recommendation 1

凡經確立診斷為肝硬化患者，應接受上消化道內視鏡檢查，瞭解其食道及胃內有無靜脈曲張 (IV)。

Screening esophagogastroduodenoscopy for the diagnosis of esophageal and gastric varices is recommended when the diagnosis of cirrhosis is made (IV).

建議二 Recommendation 2

檢查結果沒有食道及胃靜脈曲張者，代償性肝硬化患者應每 2-3 年再接受一次檢查，失償性肝硬化患者應每年再接受一次檢查。代償性肝硬化患者；若追蹤其間發生肝功能失償現象，應立即接受上消化道內視鏡檢查(IV)。

In patients who have no varices on the initial screening endoscopy, it should be repeated every 2-3 years in patients with compensated cirrhosis and annually in patients with decompensated cirrhosis. If there is evidence of hepatic decompensation during the follow-up in patients with compensated cirrhosis, endoscopy should be done at that time (IV).

建議三 Recommendation 3

上消化道內視鏡檢查時，應將食道靜脈曲張分類為小(F1 或直徑≤5 mm)或大食道靜脈曲張(≥F2 或直徑>5mm)，且需特別注意靜脈上有無紅色徵候(IV)。

On esophagogastroduodenoscopy, esophageal varices should be graded as small (F1 or ≤5 mm) or large varices (≥F2 or >5 mm) and noted for the presence of red signs (IV).

建議四 Recommendation 4

肝硬化病人若無胃食道靜脈曲張，不應使用非選擇性 β 受器阻斷劑預防胃食道靜脈曲張的發生(I)。

In cirrhotic patients without varices, non-selective β-blockers cannot be recommended to prevent variceal development (I).

建議五 Recommendation 5

測量肝靜脈壓力差為預測肝硬化病人是否會發生併發症或胃食道曲張最好的方法，進行代償性肝硬化病人的臨床試驗宜考慮測量肝靜脈壓力差(II)。

Assessment of hepatic venous pressure gradient is the best predictor of complication or variceal development in cirrhotic patients and should be used in patients with compensated cirrhosis in clinical trials (II).

建議六 Recommendation 6

膠囊內視鏡是否可作為無法接受上消化道內視鏡檢查者之替代檢查方法仍需進一步評估(II)。

Capsule endoscopy requires further study if it may be a reasonable alternative to esophagogastroduodenoscopy (II).

預防初次食道靜脈曲張出血
Primary Prophylaxis for Variceal Bleeding

楊培銘

建議一 Recommendation 1

檢查結果有小型(F1 或直徑 ≤5 mm)食道靜脈曲張，但其上沒有紅色徵兆且其肝殘餘功能仍屬 Child A 者，非選擇性乙型交感神經阻斷劑 (non-selective β-blockers (nadolol 或 propranolol))雖可考慮使用，惟其長期效益尚未確立，因而亦可不接受任何治療而僅定期追蹤檢查(2 年內應再接受一次上消化道內視鏡檢查)(IV)。

Patients with small (F1 or diameter ≤5 mm) esophageal varices on which there is no red color signs or such patients having Child A of liver reserve, non-selective β-blockers (nadolol or propranolol) could be used to prevent variceal bleeding. Such patients could also be just followed up without any treatment because long-term benefits of non-selective β-blockers have not been established (IV).

For patients without treatment, another panendoscopic examination should be performed in 2 years.

建議二 Recommendation 2

檢查結果有小型食道靜脈曲張且其上有紅色徵兆或患者之肝殘餘功能已進入 Child B/C 時，應使用 non-selective β-blockers 以預防食道靜脈曲張出血(IV)。

Patients with small esophageal varices on which there is red color sign or such patients having Child B/C of liver reserve could be treated with non-selective β-blockers to prevent variceal bleeding. (IV)

建議三 Recommendation 3

檢查結果有大型(直徑 >5 mm 以上)食道靜脈曲張，但其上沒有紅色徵兆且其肝殘餘功能屬 Child A 者，應優先考慮使用 non-selective β-blockers。若患者具有使用 β-blockers 之禁忌症或服用後無法耐受其副作用、食道靜脈曲張上有紅色徵兆或患者之肝殘餘功能已進入 Child B/C 時，應考慮使用內視鏡結紮術以預防靜脈曲張出血(I)。

Prophylactic use of non-selective β-blockers could be recommended in preventing variceal bleeding in patients with large (≥F2 or diameter >5 mm) esophageal varices on which there is no red color signs or such patients having Child A of liver reserve. Endoscopic variceal ligation (EVL) should be used instead when patients have contraindications to use β-blockers or could not tolerate side effects of β-blockers、red color signs are present on esophageal varices or Child B/C of liver reserve is noted (I).

建議四 Recommendation 4

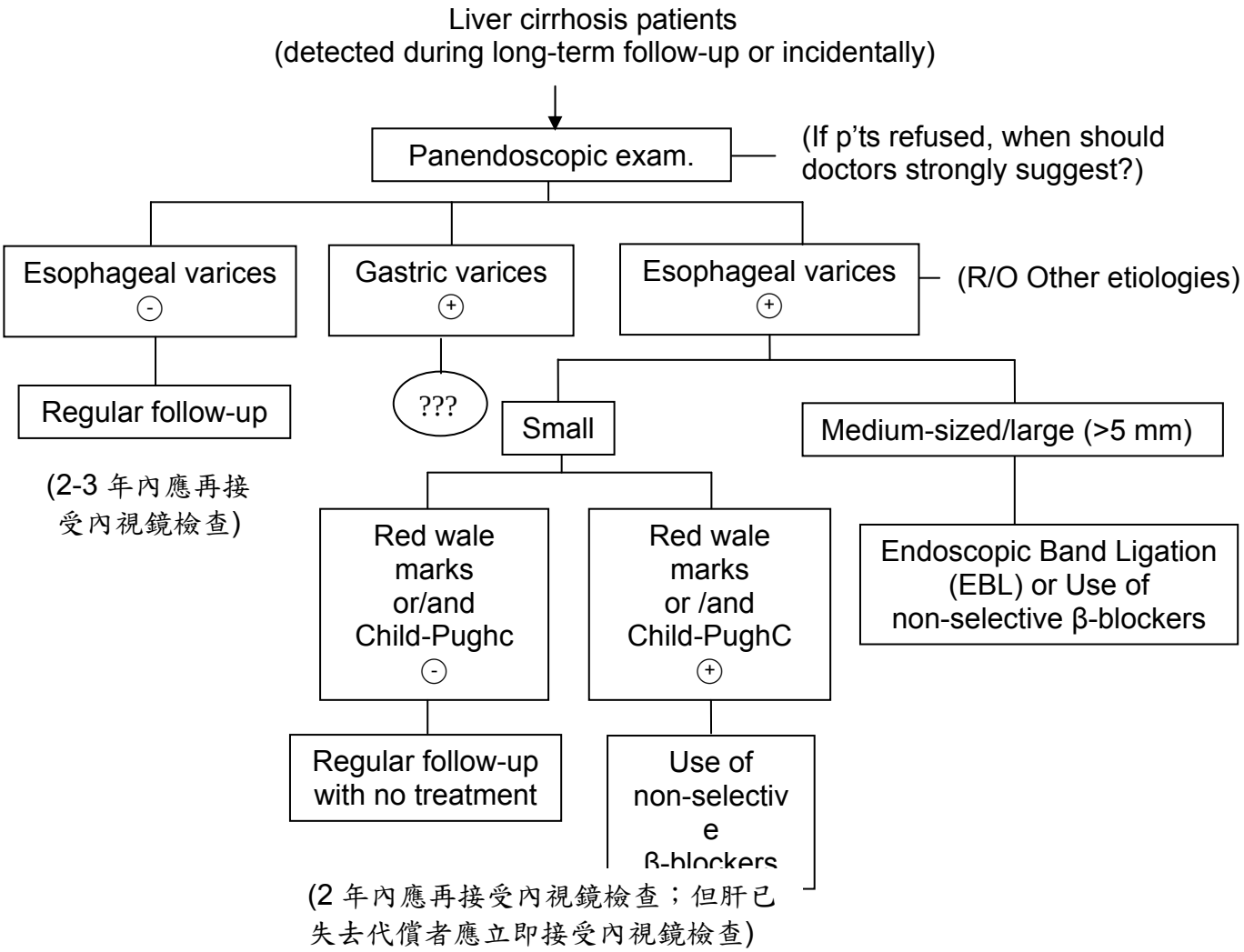
Nitrates(單獨使用或合併 β-blockers)、shunt therapy 或 sclerotherapy 皆不應使用於預防食道靜脈曲張之出血(I)。

Nitrates (alone or in combination with non-selective β-blockers)、shunt therapy or sclerotherapy should not be used for preventing variceal bleeding in such patients.

建議五 Recommendation 5

檢查結果僅有胃靜脈曲張時，目前無足夠資料推荐應否施予治療。

No enough results have been obtained from randomized controlled trials (RCTs) for preventing gastric variceal bleeding.



？腹部超音波掃瞄之功能

？HVPG 之功能

肝硬化病人之食道中出現小型 (F1) 靜脈曲張後，追蹤 1 年約有 12%的人會由小型變成大型，追蹤 3 年則達 31%，主要危險因子包括酒精性肝硬化，肝殘餘功能已達 Child B/C 狀況以及靜脈曲張上出現紅色徵兆。 (1)。同一個研究中亦發現小型食道靜脈曲張出血之機率甚低，追蹤 2 年有 12%出血，之前會出現紅色徵兆。

究竟這一類的患者是否要接受特殊治療以預防食道靜脈曲張初次出血，目前並無定論。

有一個 meta-analysis，結合 3 個以具有小型食道靜脈曲張之硬化病人為研究對象之臨床研究，評估服用非選擇性乙型交感神經阻斷劑 (non-selective β–blocker, NSβB) 以預防食道靜脈曲張初次出血之效益。追蹤 2 年後，服用安慰劑者之出血率為 7%，服用非選擇性乙型交感神經阻斷劑者之出血率為 2%，比較結果未達統計上有意義之顯著差異。(2)

另有兩篇研究主要在探討小型食道靜脈曲張之變大 (enlargement) 及其服用 NSβB 之關聯。Cales'等人 (3)從事一個雙盲試驗，共收集 206 位肝硬化患者，隨機分配於兩組，一組接受每天 160 mg propranolol，另一組接受 placebo。其中 79 位沒有靜脈曲張，其餘 127 位之食道靜脈曲張直徑小於 5 mm。追蹤 2 年後；演變成大型靜脈曲張者在 propranolol 組高達 31%，對照組僅有 14%，統計上呈現有意義之差異。Merkel 等人 (4) 收集 161 位肝硬化且有小型食道靜脈曲張之患者進行單盲臨床試驗，兩組病人分別接受每天 62 mg nadolol 或 placebo。追蹤 3 年後；演變成大型食道靜脈曲張之比率在 nadolol 治療組為 11%，placebo 組為 37%，統計上呈現有意義之差異。

基於這兩個結果呈現兩極化之研究，需要有更臨床試驗成果來探討這個議題。但是，對於肝硬化且出現小型食道靜脈曲張之患者之治療相關研究，其 endpoint 可考慮下列各項：HVPG (hepatic vein pressure gradient) 之增加，靜脈曲張之變大，肝硬化殘餘功能之惡化，死亡等等。結紮術似乎亦可慮列入研究對象。

Ref.

1. Merli M, Nicolini G, ANgeloni S, et al. Incidence and natural history of small esophageal varices in cirrhotic patients. J Hepatol 2003; 38:266-72.
2. D/Amico G, Paagliaro L, Bosch J. Pharmacological treatment of portal hypertension : an evidence-based approach. Semin Liver Dis 1999; 19:475-505.
3. (一)之 Ref. 52
4. (一)之 Ref. 53

2008 急性胃食道靜脈曲張出血治療指引
2008 guidelines for the management of acute gastroesophageal variceal hemorrhage

侯明志

建議一 Recommendation 1

肝硬化合併急性胃食道靜脈曲張出血，根據病人的年齡、是否合併其他嚴重疾病、心跳、血壓及是否持續出血，謹慎給予輸血或濃縮紅血球，不宜過度輸血，以維持生命徵象穩定及血紅素 8 g/dl 為目標(II)。

In patients with liver cirrhosis and acute gastroesophageal variceal bleeding, intravascular volume support and blood transfusion should be undertaken but with caution, with the goals of maintaining hemodynamic stability and a hemoglobin of approximately 8 g/dl, depending on patient's co-morbidities, age, hemodynamic status and presence of ongoing bleeding (II).

建議二 Recommendation 2

肝硬化合併急性胃食道靜脈曲張出血必須給予短期(最長 7 天)的預防性抗生素(I)。靜脈注射 quinolone(無法口服者)或口服 quinolone 是優先選擇(I)。

Short-term (maximum 7 days) antibiotic prophylaxis should be instituted in any patients with cirrhosis and GI bleeding (I).Intravenous quinolone (in whom oral administration is not possible) or oral quinolone is the recommended antibiotics (I).

建議三 Recommendation 3

一旦懷疑有胃食道靜脈曲張出血時，急性血管收縮劑(somatostatin, octreotide, vapreotide, terlipressin)在內視鏡檢查之前就應儘快給予(I)，對於診斷確立的病人可合併使用 2-5 天(I)。

In suspected variceal hemorrhage, pharmacological therapy (somatostatin, octreotide, vapreotide, terlipressin) should be initiated as soon as possible before endoscopy and continued for 2~5 days after diagnosis is confirmed (I).

建議四 Recommendation 4

必須儘快以內視鏡檢查來診斷胃食道靜脈曲張出血(IV)。

診斷是急性出血時，應該施行內視鏡治療(I)。

食道靜脈曲張出血以內視鏡結紮治療為優先選擇(I)。

胃靜脈曲張出血以內視鏡組織黏膠注射為優先選擇(I)。

Endoscopy should be performed to diagnose variceal hemorrhage as soon as possible (IV), and endoscopic treatment is recommended when variceal hemorrhage was the cause (I).

Endoscopic variceal ligation is the preferred method to treat acute esophageal variceal hemorrhage (I).

Endoscopic injection of cyanoacrylate is the preferred method to treat acute esophageal variceal hemorrhage (I).

建議五 Recommendation 5

當胃食道靜脈出血無法以內視鏡和藥物控制時，可考慮經頸靜脈肝內門靜脈分流術(TIPS) (I)。

TIPS is indicated in patients in whom hemorrhage from gastroesophageal variceal hemorrhage cannot be controlled or in whom bleeding recurs despite combined pharmacological and endoscopic treatment (I).

建議六 Recommendation 6

在內視鏡治療或 TIPS 尚無法立即施行且持續出血的病人，可考慮以胃食道球壓迫作為短暫的止血方法，但置放最長不超過 24 小時(III)。

Balloon tamponade should be used in massive bleeding as a temporizing measure (maximum 24 hours) until a more definitive therapy (such as TIPS or endoscopic treatment) can be instituted (III).

建議七 Recommendation 7

肝硬化病人在急性出血控制後，必須開始進行再出血之防治(I)。

Patients with cirrhosis who survive an episode of acute variceal hemorrhage should receive therapy to prevent recurrence of variceal hemorrhage (secondary prophylaxis) (I).

預防靜脈曲張再出血治療指引
EV rebleeding Guidelines

羅錦河

建議一 Recommendation 1

預防食道靜脈曲張再出血，可單獨使用非選擇性β受器阻斷劑或結紮術；非選擇性β受器阻斷劑併用 isosorbide mononitrate，或非選擇性β受器阻斷劑及結紮術(I)。

To prevent E.V.R, non-selective β-blockers, E.V.L, β-blockers plus isosorbide mononitrate or β-blockers plus EVL can be employed (I).

建議二 Recommendation 2

病患接受過單純非選擇性β受器阻斷劑或結紮術而又再出血時，可考慮併用非選擇性β受器阻斷劑及結紮術(IV)。

If rebleeding occurs after β-blockers or EVL alone, Combination of β-blockers and EVL is the first choice until variceal obliteration (IV).

建議三 Recommendation 3

用結紮術來預防食道靜脈曲張再出血者，宜定期施行，直至靜脈曲張消失為止(I)，至於應間隔多久施行一次，則有待進一步之研究 (IV)；靜脈曲張消失後，建議三到六個月後再作胃鏡追蹤靜脈曲張有無復發(IV)。

Using EVL to prevent EVR, EVL should be performed regularly (I), the optimal interval awaits further investigation (IV).

After variceal obliteration, surveillance endoscopy at intervals of 3～6 months is recommended to detect variceal recurrence (IV).

建議四 Recommendation 4

使用結紮術來預防食道靜脈曲張再出血，併用硬化療法，無法增加療效(I)。

EIS does not enhance the efficacy of EVL in reducing variceal rebleeding (I).

建議五 Recommendation 5

併用藥物療法及結紮術而仍再出血者，可考慮用經頸靜脈肝內血管分流術(TIPS)，分流手術(適用於代償性病患)或肝臟移植(III)。

Patients rebleed after medical therapy and EVL, either TIPS, shunt operation (suitable for good liver reserve) or liver transplantation could be considered(III).

建議六 Recommendation 6

預防胃靜脈曲張再出血，可使用組織黏膠注射或經頸靜脈肝內血管分流術(TIPS) (I)，至於是否要打到靜脈曲張完全消失，多久施行一次，則有待進一步之研究。

To prevent gastric variceal rebleeding, either histoacryl injection or TIPS can be employed (I).Both the interval of injections and whether variceal obliteration is required await further studies.

建議七 Recommendation 7

用藥物預防胃靜脈曲張再出血，有待更進一步之研究(IV)。The use of medical therapy in reducing gastric variceal rebleeding awaits further studies (IV).

2008 肝硬化腹水治療指引
2008 Management of Cirrhotic Ascites

邱彥程、張定宗
Yen-Cheng Chiu, Ting-Tsung Chang

1.評估及診斷 Evaluation and Diagnosis

建議一 Recommendation 1

住院病人以及門診病人臨床上具有明確的新生成腹水者，都應接受腹水抽放術(III)。

Abdominal paracentesis should be performed and ascitic fluid should be obtained from inpatients and outpatients with clinically apparent new-onset ascites (III).

建議二 Recommendation 2

在執行診斷性及治療性腹水抽放術之前，建議病人簽署同意書(III)。

It is recommended that patients give informed consent for a therapeutic or diagnostic paracentesis (III).

建議三 Recommendation 3

腹水的初次實驗室檢驗應包括細胞計數及分類，總蛋白質和血清及腹水之間的白蛋白差(III)。

The initial laboratory investigation of ascitic fluid should include an ascitic fluid cell count and differential, ascitic fluid total protein, and serum-ascites albumin gradient (III).

建議四 Recommendation 4

若懷疑腹水有感染，應在床邊將腹水注入血液培養瓶內進行培養，並以顯微鏡計數腹水內的嗜中性白血球(III)。

If ascitic fluid infection is suspected, ascitic fluid should be cultured at the bedside in blood culture bottles and examined by microscopy for a neutrophil count (III).

建議五 Recommendation 5

其他檢查視所懷疑疾病的需要而安排(III)。

Other studies can be ordered based on pretest probability of disease (III).

表：腹水的實驗室檢測

常規性的檢測	選擇性的檢測	非平常的檢測	無助益的檢測
細胞計數及分類	於血液培養瓶中培養	耐酸菌染色及培養	酸鹼值
白蛋白	葡萄糖	細胞學	乳酸
總蛋白質	澱粉酶	三酸甘油酯	膽固醇
	乳酸脫氫酶	膽紅素	纖維結合素
	格蘭氏染色		葡萄胺聚糖

Table. Ascitic Fluid Laboratory Data*

Routine	Optional	Unusual	Unhelpful
Cell count and differential	Culture in blood culture bottles	AFB smear and culture	pH
Albumin	Glucose	Cytology	Lactate
Total protein	Amylase	Triglyceride	Cholesterol
	Lactate dehydrogenase	Bilirubin	fibronectin
	Gram's stain		Glycosaminoglycan

2. 治療 Treatment

● 飲食中鹽份的限制 Dietary salt restriction

建議六 Recommendation 6

飲食中鹽份應該限制為每日只含有 87 mmol 鈉的無鹽飲食(相當於每日 2000 mg 的鈉或 5 g 的鹽) (I)。

Dietary salt should be restricted to a no-added salt diet of 87 mmol sodium per day (2000 mg per day, 5 g salt/day) (I).

● 限水的角色 Role of water restriction

建議七 Recommendation 7

除非血漿內的鈉小於 120-125 mmol/L，否則無需限水(III)。

Fluid restriction is not necessary unless serum sodium is less than 120-125 mmol/L (III).

● 利尿劑 Diuretics

建議八 Recommendation 8

腹水的第一線治療應該是單獨使用 spironolactone，但須在無禁忌症下使用，如高血鉀及腎功能受損。若它無法控制腹水，應該在生化及臨床的謹慎監控下增加 frusemide(I)。 當肝腦病變發生時應停用利尿劑(III)。

First line treatment of ascites should be spironolactone alone, if there is no contraindication, such as hyperkalemia and impaired renal function. If this fails to resolve ascites, frusemide should be added with careful biochemical and clinical monitoring (I). Diuretics should be discontinued when encephalopathy occurs (III).

● 治療性腹水抽放術 Therapeutic paracentesis

建議九 Recommendation **9**

當病人有大量腹水或頑固性腹水時，應執行治療性腹水抽放術(I)。

Therapeutic paracentesis should be performed in patients with large or refractory ascites (I).

建議十 Recommendation 10

一旦一次大量腹水抽放術(<5 公升)完成後，應給予容積擴張劑，最好能移除每公升腹水後補充 8 g 白蛋白(相當於每 3 公升的腹水補充 100 ml 的 20%白蛋白) (I)。

Large volume paracentesis (<5 liter) should be performed in a single session with volume expansion being given once paracentesis is complete, preferably using 8 g albumin/liter of ascites removed (that is, , ～100 ml of 20% albumin/3L ascites) (I).

- **頸靜脈肝內血管分流術(TIPS)Transjugular intrahepatic portosystemic shunt (TIPS)**

建議十一 Recommendation 11

針對需要經常腹水抽放術的頑固性腹水或經過風險效益評估適當的肝性胸水，TIPS 可用來治療(I)。

TIPS can be used for the treatment of refractory ascites requiring frequent therapeutic paracentesis or hepatic hydrothorax with appropriate assessment of risk benefit ratio (I).

- **肝臟移植 Liver transplantation**

建議十二 Recommendation 12

當病人有頑固性腹水時，能考慮肝臟移植(III)。

Liver transplantation can be considered in patients with refractory ascites (III).

- **其他治療 Other treatment**

建議十三 Recommendation 13

若可以的話，肝硬化併發腹水的病人應該針對其造成肝硬化的病因接受適當的治療(III)。

Patient with cirrhotic ascites should receive appropriate treatment for the underlying etiology of cirrhosis, if available (III).

3. 肝腎症候群 Hepatorenal Syndrome

建議十四 Recommendation 14

在治療第一型的肝腎症候群時，應考慮滴注白蛋白合併血管收縮藥物，如 terlipressin (I), octreotide 及 midodrine (III)。

Albumin infusion plus administration of vasoactive drugs such as terlipressin (I), octreotide and midodrine (III) should be considered in the treatment of type I hepatorenal syndrome.

建議十五 Recommendation 15

當肝硬化病人有腹水及第一型肝腎症候群時，應儘快轉介做肝臟移植(III)。

Patients with cirrhosis, ascites, and type I hepatorenal syndrome should have an expedited referral for liver transplantation (III).

4. 自發性細菌性腹膜炎 Spontaneous Bacterial Peritonitis

- **診斷Diagnosis**
- **腹水分析 Ascitic fluid analysis**
- **腹水培養 Ascitic fluid culture**

建議十六 Recommendation 16

所有肝硬化合併腹水的病人在住院時，都應接受診斷性腹水抽放術(I)。

A diagnostic paracentesis should be performed in all cirrhotic patients with ascites on hospital admission (I).

建議十七 Recommendation 17

所有肝硬化合併腹水的病人，若出現腹膜感染的症狀及徵候時，包括肝腦病變、腎功能受損或無明顯加重因素的白血球增多症，應接受診斷性的腹水抽放術(III)。

A diagnostic paracentesis should be performed in all cirrhotic patients with ascites in those who have signs and symptoms of peritoneal infection, including the development of encephalopathy, renal impairment, or peripheral leucocytosis without a precipitating factor (III).

建議十八 Recommendation 18

當肝硬化病人的腹水內嗜中性白血球數目 ≥250 cells/mm^3 時，應檢查腹水內的總蛋白質、LDH、葡萄糖值及格蘭氏染色，以幫助鑑別診斷續發性腹膜炎(III)。

When the ascitic fluid of a patient with cirrhosis is found to have a PMN count ≥250 cells/mm3, it should also be tested for total protein, LDH, glucose, and Gram's stain to assist with the distinction of SBP from secondary peritonitis (III).

- **治療Treatment**
- **抗生素 Antibiotics**
- **自發性細菌性腹膜炎的白蛋白的滴注 Albumin infusion in SBP**

建議十九 Recommendation 19

當病人腹水內的嗜中性白血球數目 >250 cells/mm^3，應該給予經驗性的抗生素治療(I)。

In patients with an ascitic fluid neutrophil count of >250 cells/mm3, empiric antibiotic therapy should be started (I).

建議二十 Recommendation 20

第三代頭孢子菌素如 cefotaxime 在治療自發性細菌性腹膜炎上，已被廣泛的研究且被證實有效(I)。

Third generation cephalosporins such as cefotaxime have been most extensively studied in the treatment of SBP and have been shown to be effective (I).

建議二十一 Recommendation 21

當病人腹水內的嗜中性白血球數目< 250 cells/mm^3，但有感染的症狀或徵候時(如體溫>37.8℃、腹痛)也應接受經驗性的抗生素治療，例如，在等待培養結果時，每 8 小時經靜脈內給予 cefotaxime 2g (III)。

Patients with ascitic fluid PMN counts <250 cells/mm3 and signs or symptoms of infection (temperature > 100°F or abdominal pain or tenderness) should also receive empiric antibiotic therapy, *e.g.*, intravenous cefotaxime 2 g every 8 hours, while awaiting results of cultures (III).

建議二十二 Recommendation 22

罹患自發性細菌性腹膜炎的病人，發生腎功能受損的徵候時，應該在前六個小時內每公斤體重給予 1.5 公克的白蛋白，接著在第三天時依每公斤體重給予 1 公克的白蛋白(I)。

Patients with SBP and signs of developing renal impairment should be given albumin at 1.5 g albumin/kg in the first six hours followed by 1 g/kg on day 3 (I).

建議二十三 Recommendation 23

所有自發性細菌性腹膜炎的病人都應考慮轉介接受肝臟移植(III)。

All patients with SBP should be considered for referral for liver transplantation (III).

- **預防 Prophylaxis**

建議二十四 Recommendation 24

當病人從自發性細菌性腹膜炎痊癒後，應接受持續口服 norfloxacin 400 mg/day (或 trimethoprim/ sulfamethoxazole 或 ciprofloxacin 500 mg/天)的預防性治療(I)。此建議仍需在台灣研究確認。

Patients recovering from one episode of SBP should receive prophylaxis with continuous oral norfloxacin 400 mg/day (or trimethoprim/ sulfamethoxazole, or ciprofloxacin at 500 mg once daily) (I). This result should be investigated for in Taiwan.

建議二十五 Recommendation 25

當肝硬化病人合併腸胃道出血時，應給予短期(7 天)住院一天兩次的 norfloxacin (或 trimethoprim/ sulfamethoxazole)治療，以避免細菌性感染；對於正在出血的病人，可靜脈給予 quinolone 的抗生素(I)。

Short-term (7 days) inpatient twice-daily norfloxacin (or trimethoprim/ sulfamethoxazole) should be given to prevent bacterial infections in patients with cirrhosis and gastrointestinal hemorrhage; a quinolone antibiotic can be given intravenously while the patient is actively bleeding (I).

建議二十六 Recommendation 26

肝硬化病人合併腹水，雖然沒有胃腸道出血，如果腹水內的總蛋白質濃度 ≤1.5 g/dL 且有明顯的肝衰竭時(Child-Pugh score >9 分且血清膽紅素 >3 mg/dL)或腎功能受損(血清肌酐酸濃度 >1.2 mg/dL、血液尿素氮 >25 mg/dL 或血清鈉濃度 <130 mEq/L)，謹慎評估後可給予短期(住院病人)或長期(門診病人)每日 norfloxacin (或 trimethoprim/ sulfamethoxazole)的治療(I)。此建議仍需在台灣研究確認。

In patients with cirrhosis and ascites but no gastrointestinal bleeding, either short-term (inpatient-only) or long-term outpatient use of daily norfloxacin (or trimethoprim/ sulfamethoxazole) can be justified when the ascitic fluid total protein is less than or equal to 1.5g/dL) with evidence of advanced liver failure (Child-Pugh score >9 points with serum bilirubin level >3 mg/dL) or impaired renal function (serum creatinine level >1.2 mg/dL, blood urea nitrogen level >25 mg/dL, or serum sodium level <130 mEq/L) (I).This result should be investigated for in Taiwan.