2018-02-07 侵襲性黴菌感染的處置

(Management of invasive candidiasis)

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來振興醫院演講筆記

侵襲性黴菌感染,尤其指念珠菌感染，特指
1)深部器官波及
2)廣泛性血流

可能來源
1)腸道聚集念珠菌
2)中央靜脈導管(CVP)
3)肺部膿瘍
4)免疫力缺乏病患-甚至可能肝脾膿瘍

Invasive candidiasis infection
- Deep organ
- blood stream disseminated

Orign →1) candida colonizing the gut
2) central line
3) lung → empyema, abscess
4) immunocompromised - hepatosplenic abscess

KULLBERG.NEJM. 2015

What
Who How
When Where
Which

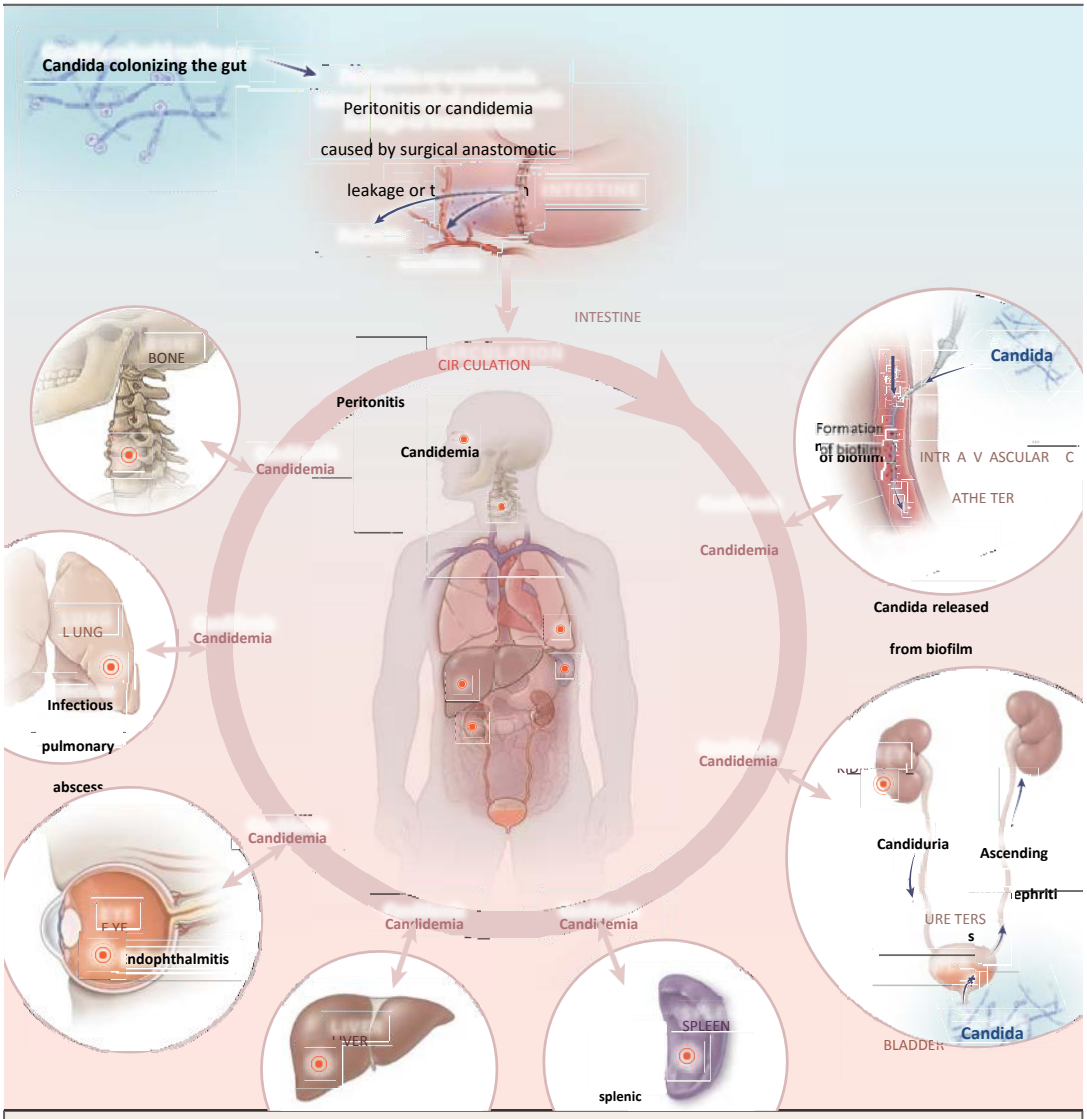

Figure 1. Pathogenesis of Invasive Candidiasis.

Candida species that colonize the gut invade through translocation or through anastomotic leakage after laparoto- my and cause either localized, deep-seated infection (e.g., peritonitis), or candidemia. In patients with indwelling in- travascular catheters, candidemia that originates from the gut or the skin leads to colonization of the catheter and the formation of biofilm. Fungi are subsequently released from the biofilm, causing persistent candidemia. Once candidemia has developed, whether from a colonized intravascular catheter or by other means, the fungi may dis- seminate, leading to secondary, metastatic infections in the lung, liver, spleen, kidneys, bone, or eye. These deep- seated infections may remain localized or lead to secondary candidemia. During candidemia, the fungi in the blood- stream may enter the urine, leading to candiduria. Less frequently, deep-seated candidiasis may occur as a result of ascending pyelonephritis and may either remain localized or lead to secondary candidemia.

住院病人中小便檢查有 yeast (黴菌、酵母菌)，没有臨牀不適症狀是否一定要處理？
尿液細菌甚至黴菌培養有作？没病狀情形，要考慮病人是否免疫力缺乏，中性白血球不足(接受化學治療...)

有症狀情況，通常考慮治療確認是否有中央靜脈導管(CVP)，考慮移除中央靜脈導管，40%感染就緩解，痰抹片培養有念珠菌並不等同肺炎。

原發性念珠菌肺炎並不常見，血栓性傳播念珠菌較於中性白血球低下病人。

血液培養出念珠菌，絕對不是污染，一定要嚴肅對待，死亡率非常高 50%以上。

成功處理侵襲性念珠菌感染之關鍵：
1)消除可能造成原因
2)儘早使用適當之抗黴菌藥物
3)查念珠菌之可能來源，是否拔除中央導管

住院病人　urine analysis, urine culture
UA - yeast
Candidemia symptomatic or asymptomatic ?

. Asymptomatic：treated in neutropenic patients
. Symptomatic：always be treated
Catheter removal alone, eradicate - 40% of infection
Candida pneumonia - sputum smear or culture
Candida in S/C ≠ pneumonia
Primary pneumonia：extremely uncommon
Hematogeneous spread：maily neutropenic patients
Candida from blood culture ：never a contaminant 一定要認真對待，很高死亡率

∆Key to successful tx of invasive candidiasis
. Eliminate predisposing factors
. Early adequate antifungal agents
. Delay Tx → ↑ mortality
Source control - removal of any culprit catheter

Δ Common risk factors
. Hematologic malignancies、central lines、multiple site candida colonizing
. Central lines、TPN、Broad spectrum antibiotics
1)無法改變的 non-modifiable　2)可改變的 central line、抗生素、TPN

三類藥物
- Azoles
- Echinocandins → cell membrane、polyene、Azole
- Polyenes - Amphotericin B　cell wall

要注意藥物 loading 問題，14 天不夠，Echinocandins，每 3 天抽一套 Blood culture，最後一套降轉，從那一天開始算起 14 天才停藥。
Fluconazole

Unstable hemodynamics - Echinocandins, 開始用，但不適合 VTI、CNS，眼睛 (intraocular infection)
但 Biofilm formation - central line, endocarditis - 用 Echinocandins, hepatic impaiment 用- Echinocandins
Candida albicans - Fluconazole 有效
. Neutropenic pt → candida 從腸胃道來源多，移除 central line 是否？
. Candida infection 一定要眼科，查是否 candida endophthalmitis 影响用藥選擇- 不能用 Echinocandins
. 如何預防投藥- AML/NDS patients
. Antifungal prophylaxis was not associated with survival benfit (cortgiani, cochrane 2016)
. Timing of empirical therapy for suspected invasive candidiasis
. Critically - ill pt, presence unknown etiology
. Candida score leon, critical care Med. 2006, 2009

Risk factor	score	
Tpn	1	
Surgery on ICU admission	1	≥ 3 分
Multifocal candida sup. Colonization	1	
Severe sepsis	2	

. Invasive candidiasis care bundle

常傳訓記錄
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關鍵字：

1)侵襲性黴菌感染