

**18th Meeting of
Consortium for Globalization of Chinese Medicine (CGCM)**

Regional Report from Hong Kong

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8 Aug 2019

Content

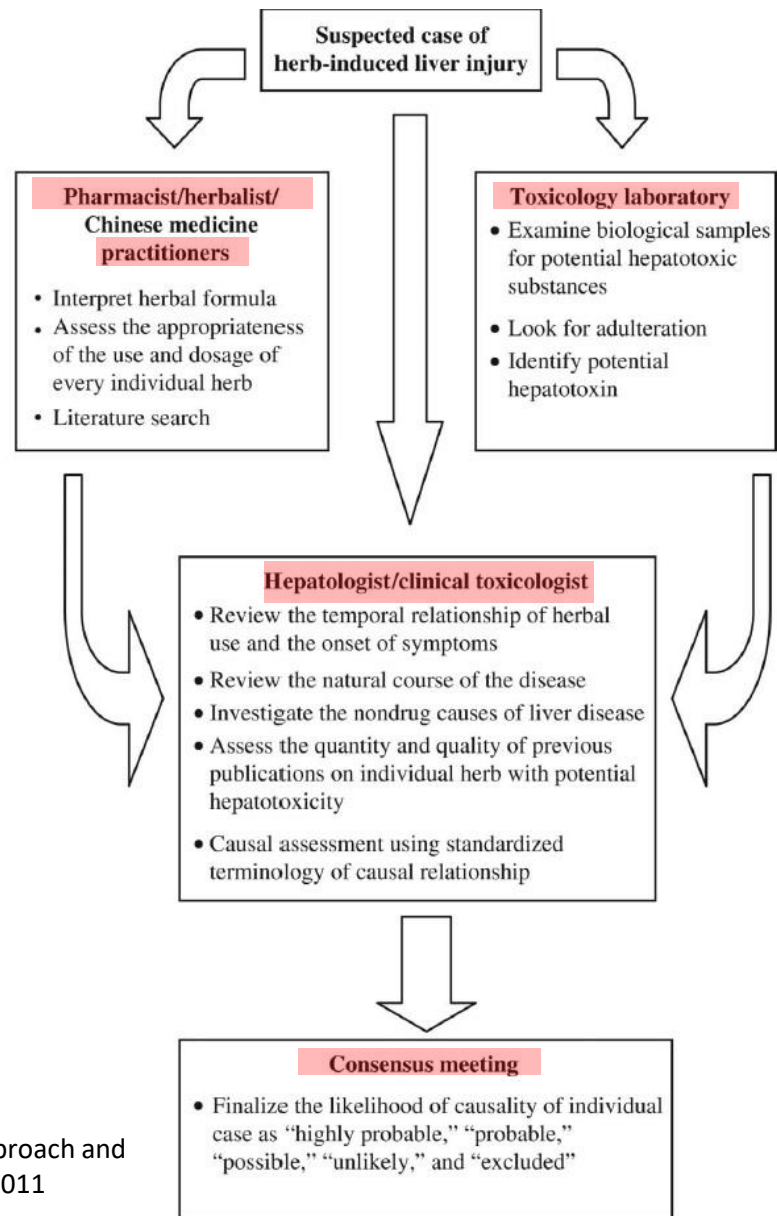
- **HILI in Hong Kong Hospital Authority 2005-2018 (HKMJ 2019)**
- **Herb-Drug Interaction Database/Guideline 2018**
- **Policies and Opportunities in Chinese Medicine Development**

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HILI in HK Hospital Authority 2005-2018

Multidisciplinary Causality Assessment Method (MCAM) in HILI



Causality assessment of herb-induced liver injury using multidisciplinary approach and Roussel Uclaf Causality Assessment Method (RUCAM). Clin Toxicol (Phila). 2011 Jan;49(1):34-9..

HILI in HK Hospital Authority 2005-2018

Multidisciplinary Consensus on Causality Assessment Method(MCAM):

- **Pharmacist & CMP** interpret herbal formula, assess formulation & dosage with literature search
- **Toxicology Lab tests** herbal products for adulteration and hepatotoxin; patient blood, urine samples for toxic metabolites
- **Hepatologists** assess temporal relationship (latency), natural course of disease with exclusion of alternative causes (non-drug)

HILI in HK Hospital Authority 2005-2018

MCAM Inter-rater agreement 80% but **RUCAM vs MCAM 50%**, because :

- **Contamination**, adulteration, hepato-toxin, complex mixture identified by experts
- MCAM consensus score by percentage of likelihood vs RUCAM with **empirical levels**
- **Subjective**: RUCAM inter-rater, test-retest reliability by same rater is unsatisfactory
- **Paucity** of high quality scientific data : RUCAM gives one point for published reports

HILI in HK Hospital Authority 2005-2018

HK Hospital Authority Poison Information Centre/Toxicology Service 2019:

2005-2007	2014-2018
0.18/100,000	0.13/100,000

Underestimated the mild ones and the delayed ones

- Uncertain herb exposure history
- Unavailable herb formula
- Multiple herbs; adulteration
- Variation in quality of herbs

HILI in HK Hospital Authority 2005-2018

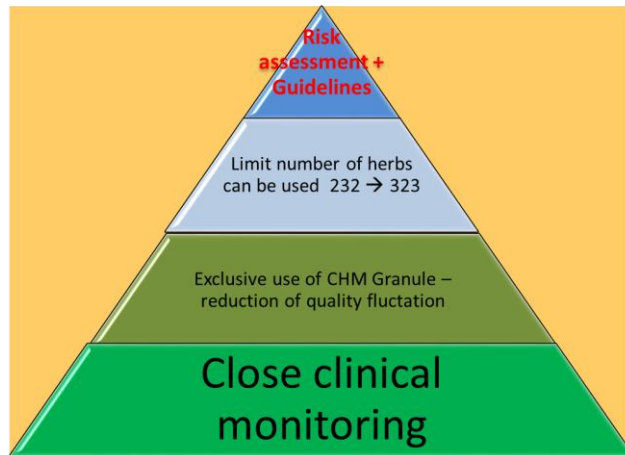
Way forward:

- **Clinical toxidromes**, local botany (morphology, biochemistry), toxicology identification
- More specific tests, **molecular markers** such as keratin 18 & microRNA
- **Epidemiological big data**/ multi-center large scale prospective study
- **Registry** of HILI, CMILI a la DILIN from Spain, US NIH; FDA's Liver Toxicity Knowledge Base (LTKB)

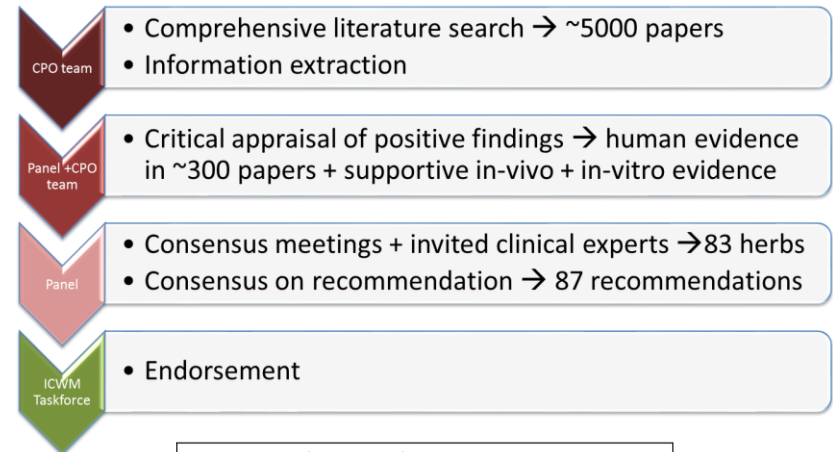
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Herb-Drug Interaction Database/Guideline - 1

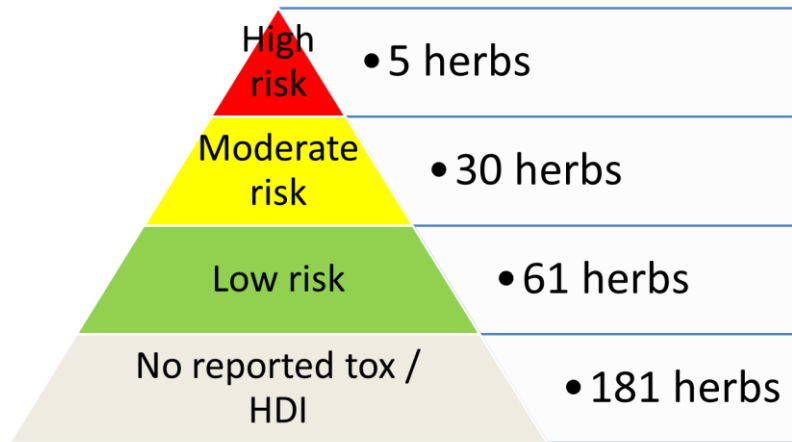


Level of Evidence	I	II	III	IV
Relevance				
Good	1	2	2	2
Fair	2	2	3	3
Poor	2	3	3	3
Recommendation				
Other remark				



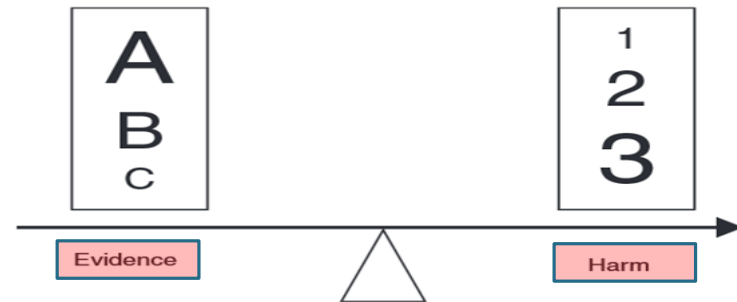
HDI 4 人參/西洋參 + warfarin				
Level of Evidence	I	II	III	IV
Relevance				
Good	1	2	2	2
Fair	2	2	3	3
Poor	2	3	3	3
Recommendation				
Use alternative CHM if possible. If the concurrent use cannot be avoided, routine monitoring & weekly monitoring of INR until 2 weeks after stopping the CHM is recommended				
Other remark				

Herb-Drug Interaction Database/Guideline - 2



- Immunosuppressant – cyclosporin, tacrolimus
- Warfarin
- Anti-platelet
- Anti-diabetes
- Anti-virals
- Sex hormones
- Theophylline
- Calcium-channel blockers
- Corticosteroids

- Toxicity
 - 炒蒼耳 *Xanthii Fructus*, 枳實 *Aurantii Fructus Immaturus*, 何首烏 *Polygoni Multiflori Radix*
 - Dose limitation
 - Clinical + laboratory monitoring
- HDI
 - 黃柏 *Phellodendri Chinensis Cortex*, 黃連 *Coptidis Rhizoma*
 - → increase blood cyclosporin concentration
 - Avoid the combination



- Better quantify risk associated with herb-drug co-use
- Good-practice guidelines established for 4 levels of herbs in IM
- Laid down principles for collaboration between WMP and CMP

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- **Policies and Opportunities in Chinese Medicine Development**

Opportunities 1, 2

- Policy to use HK as a launching platform for CM & IM
- 香港為中西結合醫藥國際樞紐



- Belt & Road countries - > 100 TCM Clinics
- 一帶一路中醫藥服務



Opportunities 3, 4

- Greater Bay Area healthcare network for business & medical tourism.
大灣區醫健聯網



- New listing relaxation for biotech companies
生物科技上市新制度

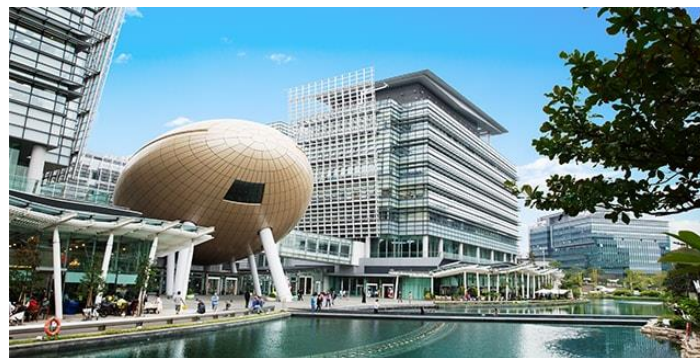


New Main Board Listing Rules:

- permit listings of biotech issuers that do not meet any of the financial eligibility tests of the Main Board
- specific guidance on the listing eligibility for pre-profit/pre-revenue biotech issuers that produce pharmaceuticals.....

Opportunities 5, 6

- 0.5Bn seed funding for CM +
 - A. *Applied research & knowledge exchange, 應用研究, 知識互通*
 - B. *Helping local CM traders with the production & registration of Chinese proprietary medicines. 生產與註冊*
 - C. *Cross-market co-operation 跨市場合作*
 - D. *CM specialization 專科發展*
- ITC, HKSTP, Healthcare Technology, BUD, export marketing (32.5Bn)
生物醫療科研, 市場推廣





基訓生物

公司介紹



基訓生物科技有限公司坐落於香港科學園，主要從事基於天然中草藥成分的新型藥物及個人護理產品的研究與開發，擁有以香港浸會大學為背景的專業研發團隊，並得到香港政府大學技術創業啟動基金支持，擁有多項自主研發的科研專利。研發成果及產品可應用於抗癌、抗菌、消炎、美膚、美髮等個人護理領域。現有石斛系列美白護膚產品深受香港市民喜愛。





2016.04

公司成立

2017.04

獲得大學技術啟動支持計畫基金
2017-2019連續三年獲得該項基金支持



2017.10

成為香港科學園生物技術培育公司

Dendrobium nobile **2018.11**

石斛系列藥妝產品於香港上架





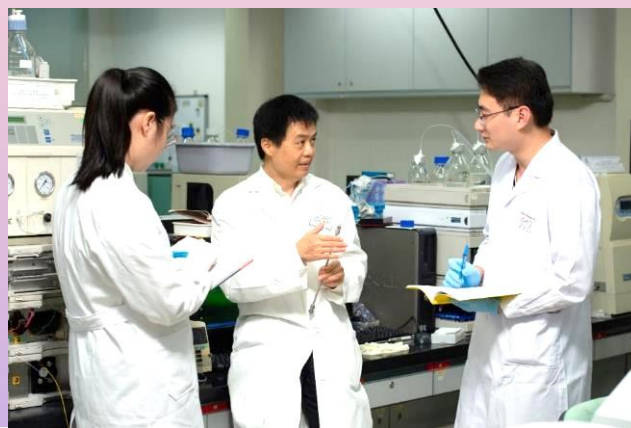
技術/產品/服務
特色及優勢

科研背景

- 專業團隊：香港浸會大學中醫藥研發團隊
(教授2名, 博士後2名, 博士在讀9名)
植物化學/生物醫學/中藥學專家教授帶領
- 知識產權：美國及國際專利十餘項
- 研究領域：天然产物药物开发
 - 抗癌
 - 抗病毒
 - 抗菌
 - 美肤

科研優勢：

- ❖ 藥用植物提取物庫 7000餘種樣品
- ❖ 特有活性成分篩選平臺



年輕因子 DR2



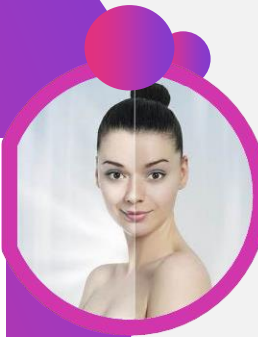
- 來源：石斛 *Dendrobium*
- 特點：小分子成分，脂溶/水溶
- 功效：抗氧化劑，抑制黑色素生成

- 效果顯著的抗氧化劑

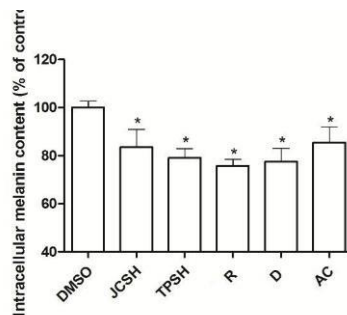
- 可減少蛋白質氧化和脂質過氧化
- 可減弱NADPH氧化酶活性和活性氧的產生

- 可用于治疗色素沉着过度

- 抑制黑素細胞中酪氨酸酶的活性
- 显著减少黑色素的生产



Relative melanin content
in melanocytes





石斛亮白系列產品

- ❖ 溫和美白 敏感肌適用
- ❖ 滲透肌底 效果更勝維C
- ❖ 淡化瑕疵 打造年輕亮白肌

大學科研 專利成分
香港製造 品質保證



孵化器資源

- 香港科學園科技創業培育計劃
「網動科技創業培育計劃 (Incu-App)」
「科技創業培育計劃 (Incu-Tech)」
「生物醫藥科技創業培育計劃 (Incu-Bio)」

- 數碼港培育計劃
eg. GOGO VAN



大灣區 (Greater Bay Area)

- 前海深港青年夢工場
- 创客空间

Vision

Be a World Hub in high quality Chinese medicine products, services, training and development.

世界中醫藥服務、產品、教研樞紐

