



An evidence-based two-tier urological treatment and liver-injury surveillance program to young ketamine abusers with urinary tract dysfunction - BDF130018

為患有與氯胺酮有關的排尿功能障礙的年輕病人提供以實證為基礎的雙線泌尿治療及肝臟損傷監測計劃

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**Faculty of Medicine**

The Chinese University of Hong Kong

# Project information 項目內容

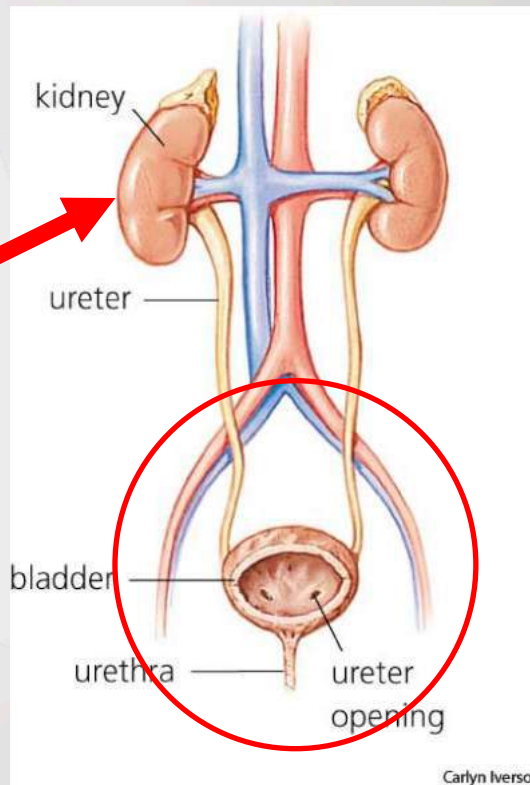
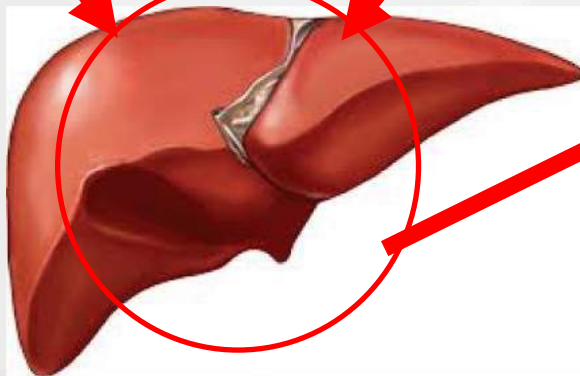
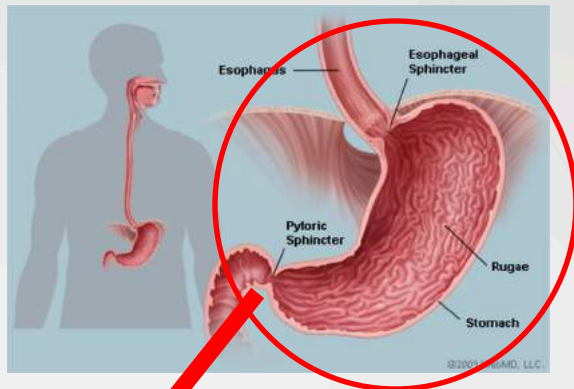
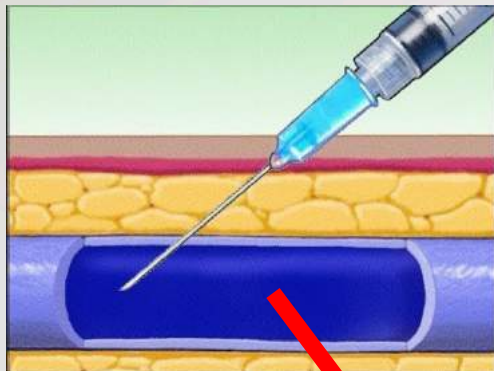


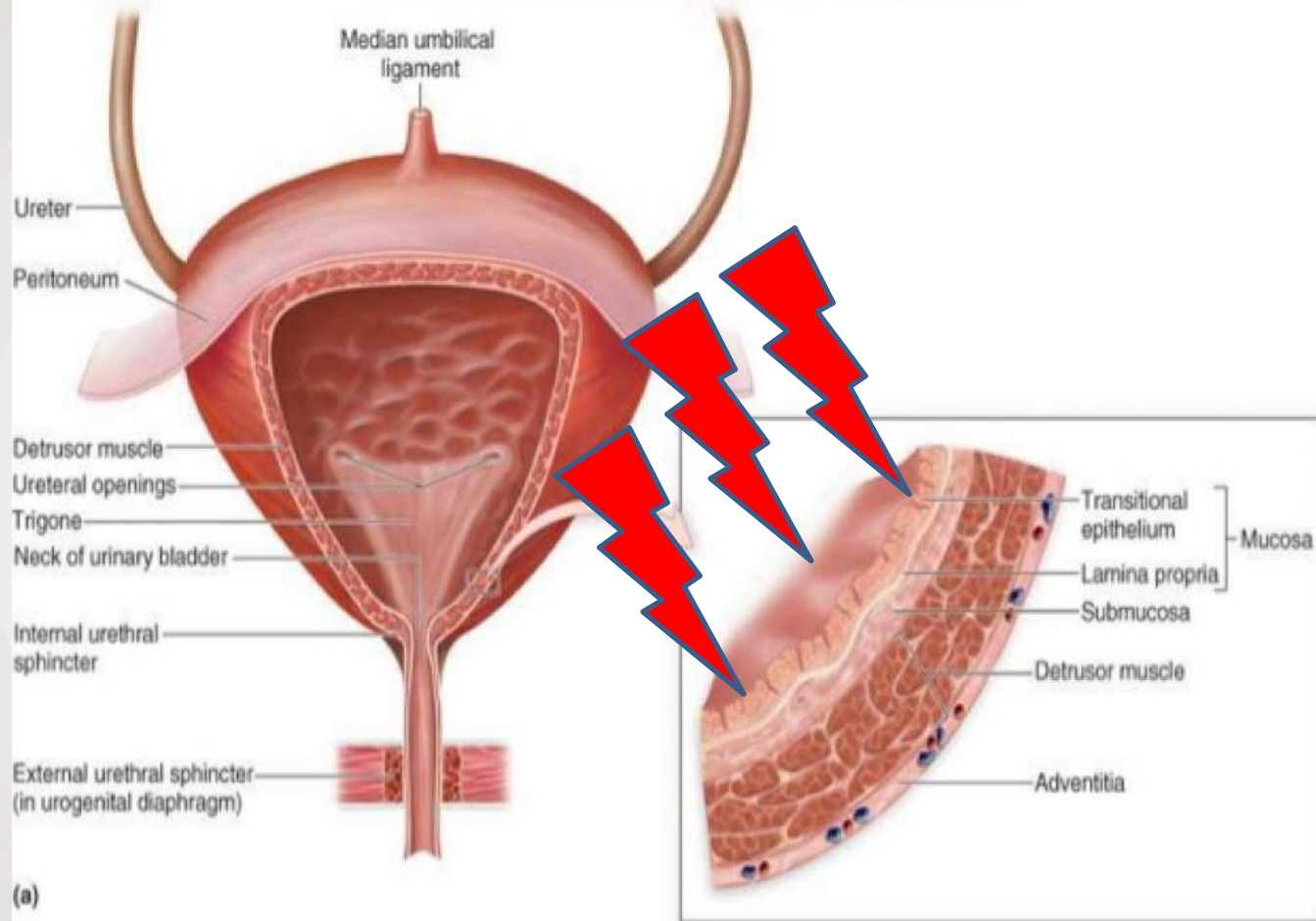
- 1 Apr 2014 – 31 Mar 2017
- Youth Urological Treatment Centre, Department of Surgery, The Chinese University of Hong Kong

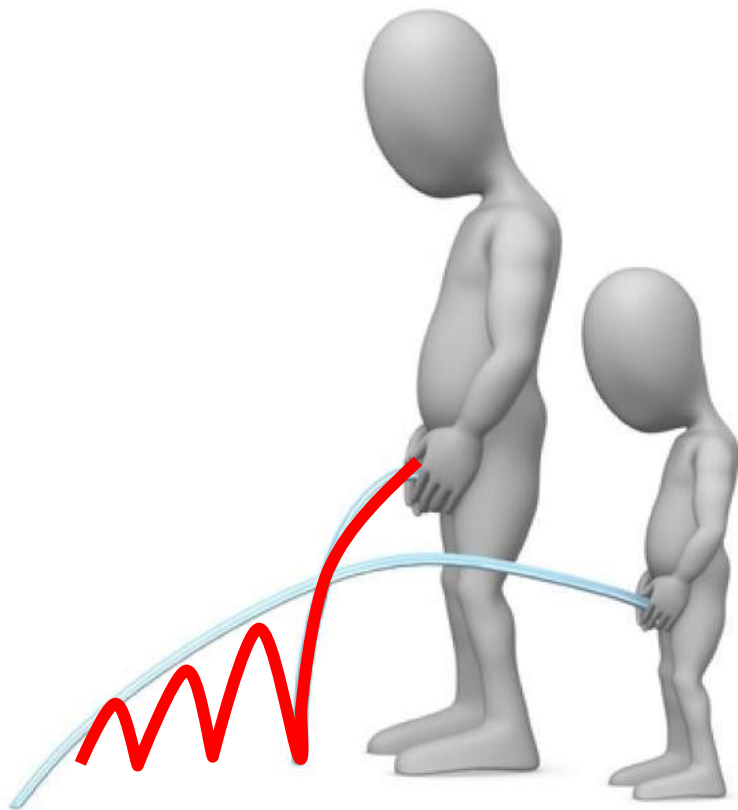
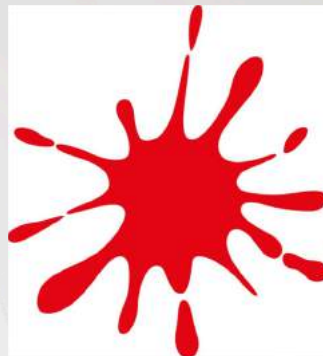


# BACKGROUND 背景









# 'Street ketamine'–associated bladder dysfunction: a report of ten cases



Peggy SK Chu 朱秀群

SC Kwok 郭善淳

KM Lam 林建文

TY Chu 朱天儒

Steve WH Chan 陳偉希

CW Man 文志衛

WK Ma 馬偉傑

KL Chui 崔家倫

MK Yiu 姚銘廣

YC Chan 陳耀祥

ML Tse 謝萬里

FL Lau 劉飛龍

Ten young ketamine abusers presented with lower urinary tract symptoms to two regional hospitals in Hong Kong. Investigations demonstrated contracted bladders and other urinary tract abnormalities. These types of findings have never been reported before in ketamine abusers. The possible aetiology is also discussed.

Int

Ketamine  
abuse

## 與「街頭」氯胺酮有關的膀胱功能失調： 十宗病例報告

十名氯胺酮濫用者因呈有下尿道徵狀分別被送往兩間香港地區醫院，經檢查後發現膀胱收縮及其他尿道異常。這是於氯胺酮濫用者身上發現這類結果的首批病例報告。本文亦討論導致以上情況的可能病原。



# YUTC opening ceremony Mar 19, 2012

青少年泌尿治療中心開幕式 – 2012年3月19日



# 青少年泌尿治療中心 / YUTC



- Supported by Beat Drug Fund
- Provide fast track territory wide clinical service
- 由禁毒基金支持
- 為所有需要的病人提供全港快速服務

青少年泌尿治療中心

吸毒尿頻遺害多  
立即求醫勿再拖

尿頻  
小便赤痛  
滲尿

吸毒可破壞膀胱，永久失去正常排尿功能。若您懷疑自己因曾吸食毒品而導致任何小便不正常情況，請立刻致電威爾斯親王醫院青少年泌尿治療中心求助熱線：2632 3773  
我們歡迎青少年自行預約及求診。

香港中文大學醫學院  
Faculty of Medicine  
The Chinese University of Hong Kong

青少年泌尿治療中心  
由禁毒基金贊助成立

## One-stop clinic for ketamine-associated uropathy: report on service delivery model, patients' characteristics and non-invasive investigations at baseline by a cross-sectional study in a prospective cohort of 318 teenagers and young adults

Yuk-Him Tam\*, Chi-Fai  
Winnie Chiu-Wing Chu  
Vincent Wai-Sun Wong

• 58 •

中国药物依赖性杂志 (Chin J Drug Depend) 2016, 25(1): 58-67

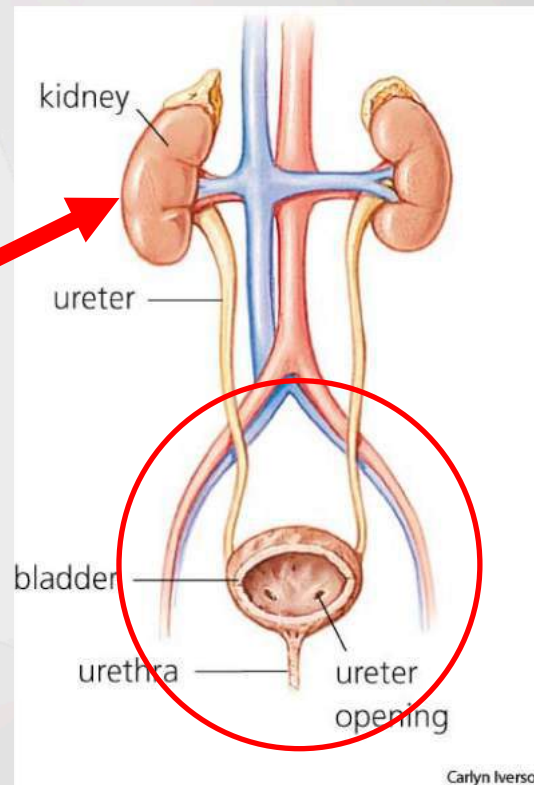
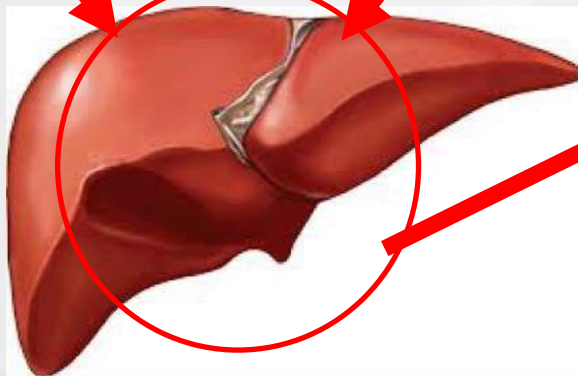
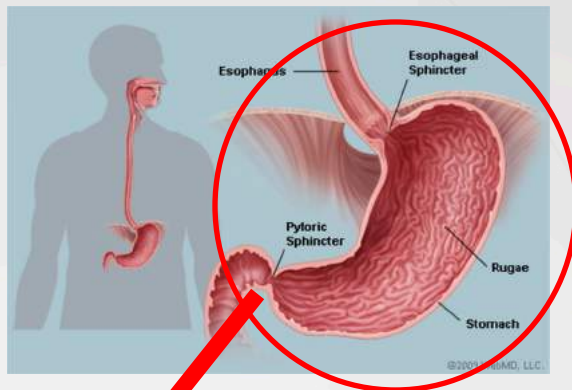
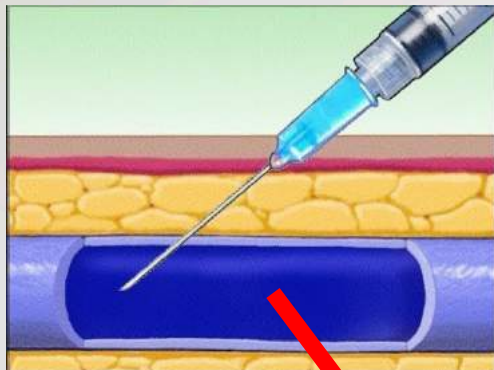
[ 论 著 ]

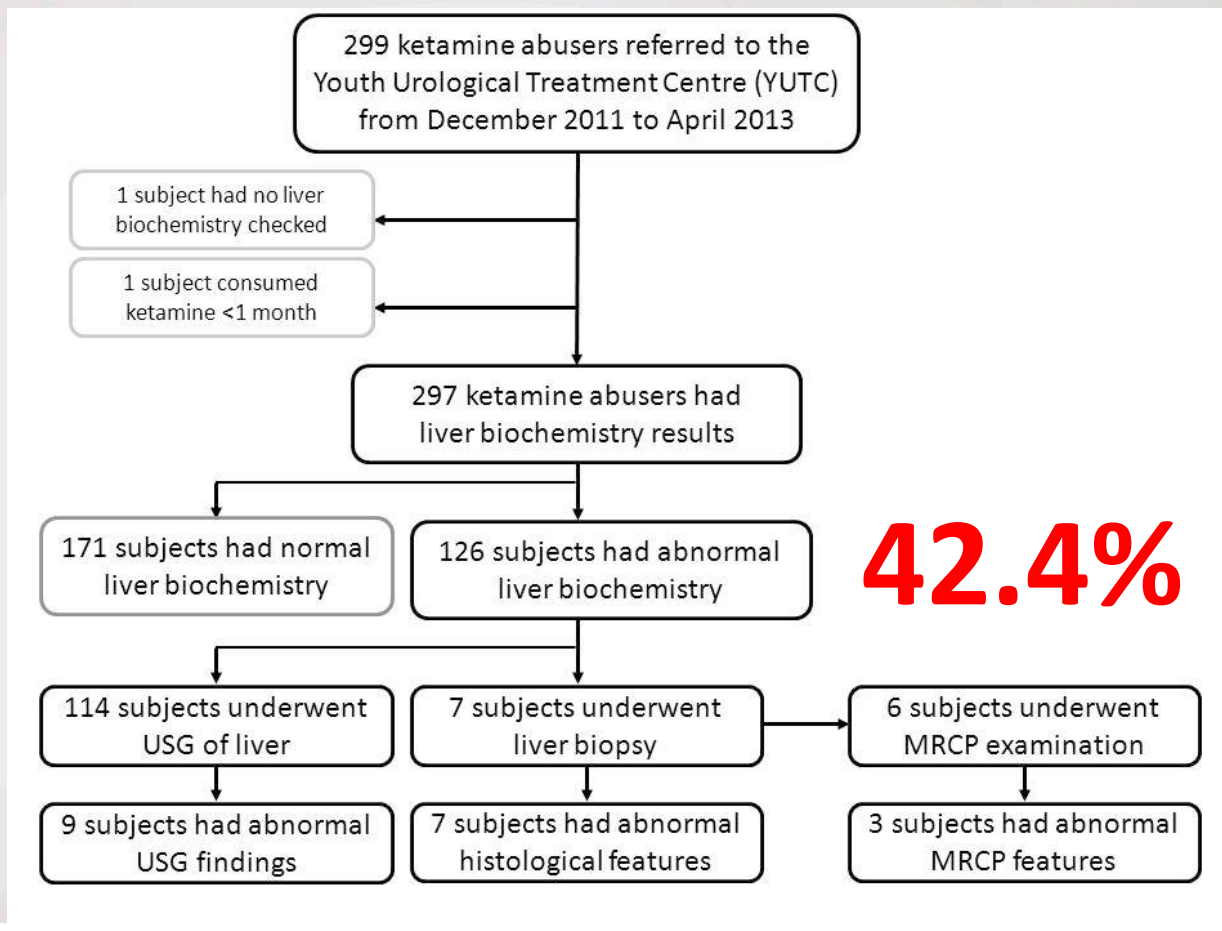
## 氯胺酮相关尿路病变的新型治疗策略： 包含 540 个年轻患者的前瞻群组在基线的服务 提供模式、病人特征以及非侵入调查的首份报告\*

吴志辉<sup>1,3\*\*</sup> 余知行<sup>1,3</sup> 黎珮德<sup>1,3</sup> 陆 晔<sup>1,3</sup> 李慧敏<sup>1,3</sup> 谭煜谦<sup>2,3</sup>



# BEYOND URINARY SYSTEM 超越泌尿系統



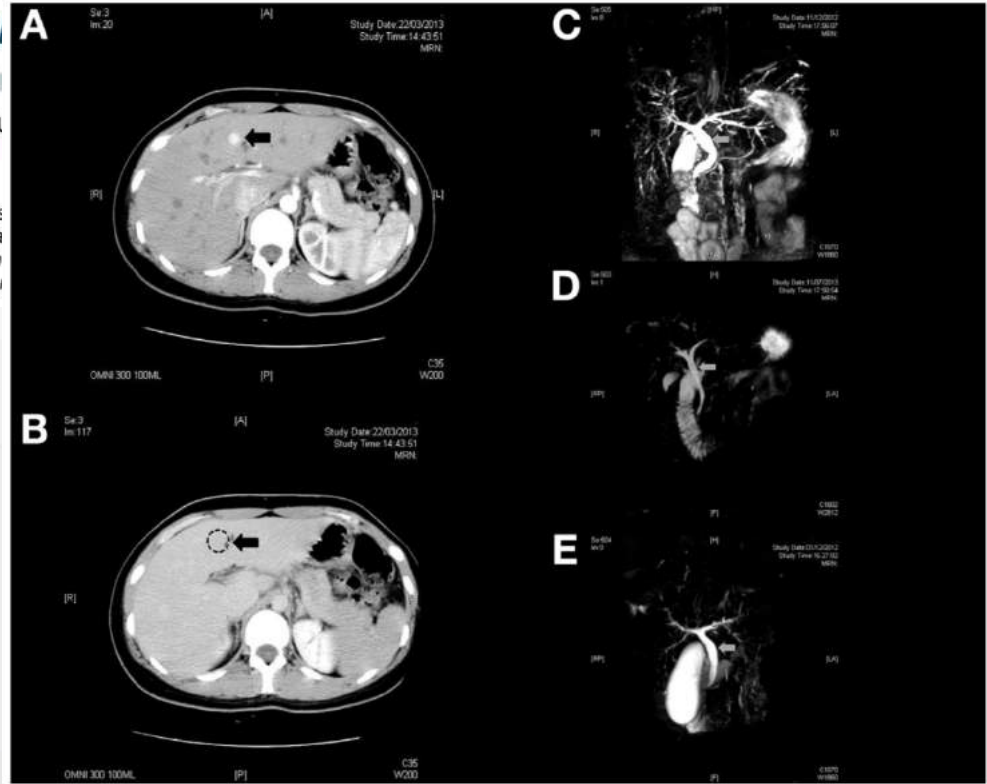


## BRIEF COMMUNICATION

### Liver Injury Is Common Among Chronic

Grace Lai-Hung Wong,<sup>\*,‡</sup> Yuk-Him Tam,<sup>§,||</sup> Chi-Fai Ng,<sup>||</sup>  
Paul Cheung-Lung Choi,<sup>#</sup> Winnie Chiu-Wing Chu,<sup>\*\*</sup> Pat  
Henry Lik-Yuen Chan,<sup>\*,‡</sup> and Vincent Wai-Sun Wong<sup>\*,‡</sup>

<sup>\*</sup>Institute of Digestive Disease, <sup>‡</sup>Department of Medicine and Therapeutics  
Urology, Department of Surgery, <sup>||</sup>Youth Urological Treatment Centre, Depa  
of Surgery, <sup>#</sup>Department of Anatomical and Cellular Pathology, <sup>\*\*</sup>Departm  
<sup>‡‡</sup>Division of Hepato-biliary and Pancreatic Surgery, Department of Surger





# PROJECT CONTENT 項目內容



## Project Content. 項目內容

- Established Youth Urological Treatment Centre(YUTC) at the Prince of Wales Hospital
  - Provide early urological assessment and treatment to young patients suffering from ketamine-associated urinary tract dysfunction
  - Identify those ketamine abusers who have high-risk to develop liver injury and to provide formal hepatological assessment
  - Encourage young abusers to quit drugs
- 在威爾斯親王醫院成立青少年泌尿外科治療中心(YUTC)
- 為患有氯胺酮相關尿路功能障礙的年輕患者提供早期泌尿科評估和治療
- 找出那些有高風險發生肝損傷的氯胺酮濫用者並提供正式的肝臟評估
- 鼓勵年輕的濫用者戒毒

# Project Content 項目內容



- DTRC health talks
  - Provide preventive education to DTRC rehabilitees through health talks on harmful effects of ketamine abuse on urinary tract
  - Identify those DTRC rehabilitees who would benefit from formal urological assessment and treatment by delivering health talks and screening for ketamine-associated urinary tract dysfunction
- DTRC健康講座
- 通過關於**氯胺酮**濫用對尿道有害影響的健康講座，向DTRC康復者提供預防性教育。
- 通過提供健康講座和**氯胺酮**相關尿路功能障礙篩查，確定那些DTRC康復者須接受進一步泌尿系統評估和治療。

# Project Content – Major activities



# Output and Outcome Evaluation



	Description of Indicator (with targets)	Output Achieved	Evaluation Methods
Revised Output indicator 1	<b>224</b> patients either receiving first line integrated anti-inflammatory therapy or second-tier advanced therapy (240 patients)	93%	Data retrieved from participant's enrolment / registration record
Output indicator 3	<b>220</b> patients participating in the ketamine-associated liver injury surveillance program (240 patients)	92%	Data retrieved from participant's enrolment / registration record
Output indicator 4	<b>356</b> of DTRC residents participating in health-talk and screening program for ketamine-associated urinary tract dysfunction (360 patients)	99%	Data retrieved from participant's enrolment / registration record
Output indicator 5	<b>89% (8/9)</b> of patients identified to be "high risk" cases for ketamine-associated liver injury received advanced hepatological assessment by hepatologists (80%)	89%	Data retrieved from participant's enrolment / registration record
Output indicator 6	<b>100% (28/28)</b> DTRC residents identified with significant urinary tract dysfunction symptoms received formal urological treatment at YUTC (80%)	100%	Data retrieved from participant's enrolment / registration record

# Liver injury 肝損傷

- There were 220 patients participating in the ketamine-associated liver injury surveillance program.
  - 208 had LFT data (12 patients were recruited at a DTRC visit and no blood test was taken among them).
  - 110 (52.9%) had abnormal liver function.
  - 9 patients identified to be “high risk” cases for ketamine-associated liver injury.
  - 8 received advanced hepatological assessment by hepatologists.
- 有220名患者參加了氯胺酮相關肝損傷監測計劃。
  - 208名患者有LFT數據(12名患者在DTRC訪問時被招募, 其中沒有進行血液檢查)。
  - 110例(52.9%)肝功能異常。
  - 9名患者被認定為氯胺酮相關肝損傷的“高風險”病例。
  - 8人接受了肝病學家進行的肝臟病學評估。

# Experience Gained 獲得的經驗

- The service model of YUTC
  - Fill the service gap
  - Starting point – divert to multidisciplinary care (liver, psychi, gynae etc)
- Education to DTRC rehabilitees
  - Gain insights
  - Get connected to medical care if needed
- YUTC的服務模式
- 填補服務空白
- 起點 – 轉向多學科護理(肝臟, 精神病, 婦科等)
- 教育DTRC 康復者
- 獲得見解
- 如果需要, 連接到醫療保健

## Experience Gained 獲得的經驗

- Multidisciplinary care
  - Referral
  - Treatment
    - Psycho-social
    - Medical
- 多學科護理
  - 推薦
  - 治療
    - 社會心理
    - 醫療

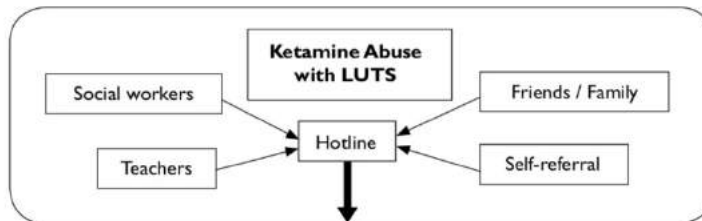
# Management of complications of ketamine abuse: 10 years' experience in Hong Kong

YL Hong, CH Yee, YH Tam, Joseph HM W

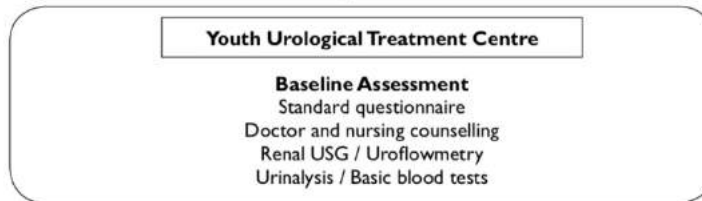


## Characteristics:

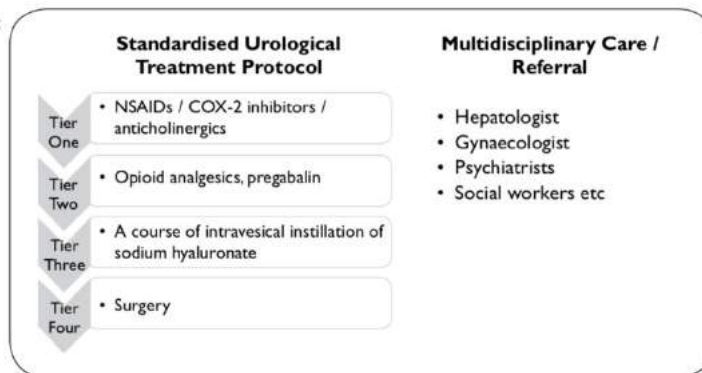
Territory-wide  
No referral required



One stop  
Fast track  
Non-invasiveness



Standardised treatment  
Multidisciplinary care





# Multidisciplinary care 多學科/專業護理



- Urologists
- Psychiatry
- Gynaecologist
- ENT surgeons
- Gastrointestinal doctor
- Hepatologist



- 泌尿科醫師
- 精神科醫師
- 婦科醫師
- 耳鼻喉醫師
- 胃腸道醫師
- 肝病醫師

## Other Findings 其他調查結果

- Latest finding suggests that methamphetamine has replaced ketamine to be the most popular substance being abused.
- Both ketamine and methamphetamine abuse can cause urinary tract problems.
- 最新發現表明，甲基苯丙胺已經取代氯胺酮成為最受歡迎的濫用藥物。
- 氯胺酮和甲基苯丙胺濫用都可能導致泌尿道問題。

# September 2015 – August 2017

2015年9月– 2017年8月



- 19 cases (Male: 8; Female: 11)
  - Mean age 24.8 (15-47) years old
  - Mean usage 84 months (15-192 months) by smoking approach
  - 7 polysubstance abuse – 4 ketamine (irregular use with small amount )
  - 9 patients stopped usage
    - Abstinence time – 6.4 months (2-16 months)
- 19個案例（男性：8；女性：11）
  - 平均年齡24.8歲（15-47歲）
  - 平均吸用年期：84個月（15-192個月）
  - 10名有吸食其他精神藥物 – 9名氯胺酮（不定期使用及少劑量）
  - 9名已停止濫用
  - 戒毒年期 – 6.4個月（2-16個月）

# Voiding symptoms 排尿症状 (Based on first 11 cases)



## Methamphetamine 甲基安非他明 (N=11)

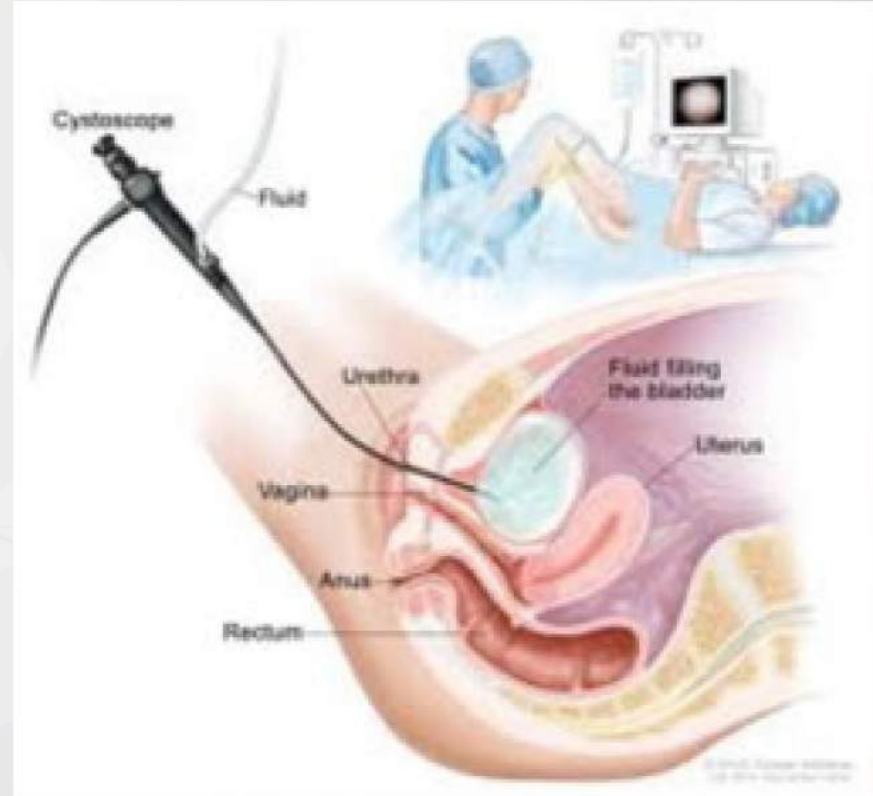
- Duration – 21 (4-48 months)
- 出现年期 – 21个月(4-48个月)
- Frequency – 9 (82%)
- 尿频 – 9 (82%)
- Urgency – 6 (55%)
- 尿急 – 6 (55%)
- Difficulty in passing urine – 3 (27%)
- 排尿困难 – 3 (27%)
- Incomplete emptying – 3 (27%)
- 排尿不清 – 3 (27%)

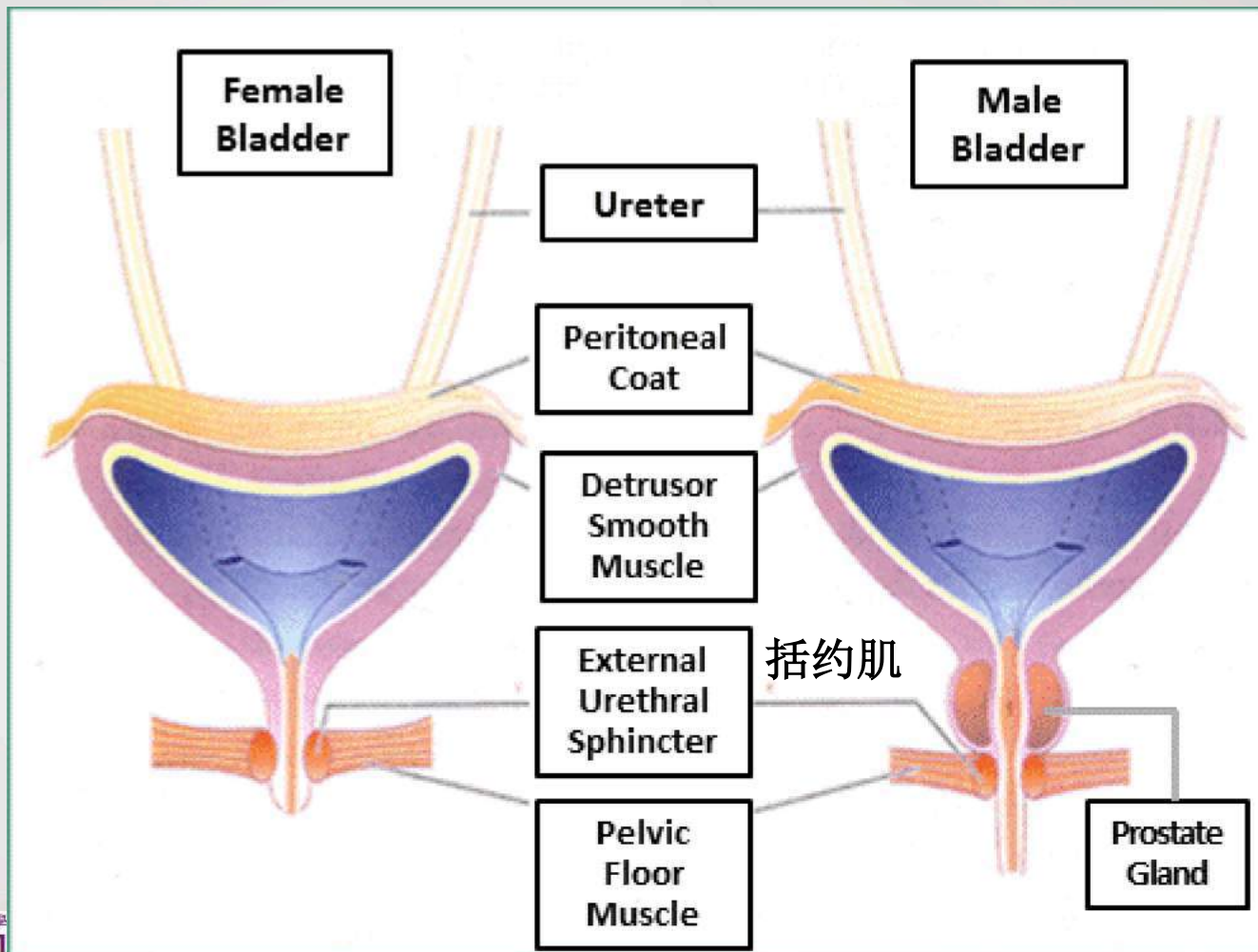
## Ketamine 氯胺酮 (N=629)

- Duration – 37 (1-144 months)
- 出现年期– 37个月(1-144个月)
- Frequency – 570 (91%)
- 尿频– 570 (91%)
- Urgency- 467 (74%)
- 尿急– 467 (74%)
- Difficulty in passing urine - 6 (1%)
- 排尿困难 – 6 (1%)
- Incomplete emptying - 2 (<1%)
- 排尿不清 – 2 (<1%)

# Flexible cystoscopy 膀胱軟管窺鏡檢查

- Urethral sphincter – not able to relax easily
- 尿道括約肌 – 不能輕易放鬆
- Bladder normal
- 膀胱正常





## Conclusion 結論

- Continuous efforts are warranted from all stakeholders including the government, the social work services and the urological care providers to better tackle the challenging issue of ketamine-associated urinary tract dysfunction.
- YUTC experience strongly suggests that treatment for ketamine-associated urinary tract dysfunction should be part of the integrated treatment and rehabilitation care for ketamine abusers.
- 包括政府，社會工作服務和泌尿科護理提供者在內的所有利益相關者都需要持續努力，以更好地解決氯胺酮相關尿路功能障礙這一具有挑戰性的問題。
- YUTC的經驗強烈表明，氯胺酮相關性尿路功能障礙的治療應該成為氯胺酮濫用者綜合治療和康復護理的一部分。



**THANK YOU**