

Symposium 16 : 焦點式超音波的整合應用與發展

Integrated Application and Development of Point-of-Care Ultrasonography

時間：2022 年 8 月 8 日(一) 10:40~12:00

會議室：401 會議廳

主持人：林韋均醫師(中國附醫)、孫仁堂醫師(亞東醫院)

10:40~11:00 How to use a Multi-Organ POCUS in shock.

主講人：Prof. Ha, Young-Rock (Seongnam Citizens Medical Center)

11:00~11:20 經食道心臟超音波與心臟超音波之診察表現

Diagnostic performance of transthoracic and transesophageal echocardiography in patients with cardiac arrest: a systematic review

主講人：何奕儒醫師(臺大醫院)/連琬菁醫師(臺大醫院)

11:20~11:40 超音波輔助之醫療處置-由基礎到進階應用的經驗分享

How I do it: ultrasound-assisted procedures-from basic to more than basic

主講人：陳國智醫師(雙和醫院)

11:40~12:00 超音波如何影響臨床執業與未來發展？

主講人：林韋均醫師(中國附醫)

課程簡介

● **How to use a Multi-Organ POCUS in shock**

1. Acute care physician can obtain additional critical information combining MOPOCUCS with physical examination for patients in shock.
2. An initial basic MOPOCUS (2D image) can lead to start of treatment, with a more advanced study (Doppler US) subsequently providing incremental and vital additional information.
3. The sequence of MOPOCUS: start with a lung US (classified into three pattern), and then look into IVC, heart, and add abdominal and venous US in case of possible absolute or relative hypovolemic shock.
4. Lung US pattern (step 1) can be divided into diffuse interstitial, normal lung, and abnormal non-diffuse interstitial pattern (the others). We can get more information to make better differential diagnosis from IVC (step 2) and heart (step 3).
5. We can more investigate the shock patient with Doppler imaging, questioning that "is CO (preload or contractility) or SVR adequate?"

- **經食道心臟超音波與心臟超音波之診察表現**

Focused echocardiography including transthoracic echocardiography (TTE) and transesophageal echocardiography (TEE) has been introduced during resuscitation in patients with cardiac arrest (CA). However, whether TEE exhibits an advantage over TTE in the identification of potentially reversible etiologies was unknown. A systematic review was conducted following PRISMA guidelines. Adult non-traumatic patients with CA in whom TTE or TEE was used for intra-arrest evaluation were included. The QUADAS-2 tool was used for the quality assessment of selected studies. The pooled incidence proportions of target sonographic findings of TTE and TEE were presented. A total of 18 studies with 2,009 patients were included. The etiology of CA was identified in 48% (759/1,598) of patients receiving TTE, and 60% (245/411) in those receiving TEE. There was no significant difference in the pooled incidence proportions among the target findings between TTE and TEE although aortic dissection, pulmonary embolism, regional wall motion abnormalities indicative of myocardial infarction, and intra-cardiac thrombus could be detected in more patients receiving TEE. The pooled proportion of pulmonary embolism detected by TEE among patients with out-of-hospital CA was 14% (95% CI, 6-31%), significantly increasing than those by TTE (2%, 95% CI, 1-5%). However, high heterogeneity, high risk of bias, small-sized samples, and lack of confirmatory tests limited the interpretation of the findings.

- **超音波輔助之醫療處置-由基礎到進階應用的經驗分享**

超音波在急診醫學的第一個角色主要是協助即時的診斷，第二個角色是提供治療成效反應的資訊給臨床一線工作人員，超音波輔助之臨床處置是我個人認為最能彰顯急診醫學價值的第三個角色。

本次主題將分享我個人在急診臨床工作中，如何藉助超音波輔助來完成不同的臨床處置。

- **超音波如何影響臨床執業與未來發展？**

隨著科技的進步，醫療器材設備、診斷標準、實驗數據檢驗等等與時俱進，目前超音波的超音波應用，因為體積縮小且影像畫質進步，從過去把病人推到超音波檢查室，轉變成使用移動式的超音波機器推到需要檢查病人的床邊，由第一線治療照顧病患的醫師，根據病患問題，直接在床邊操作超音波，得到立即的診斷和協助侵入性治療的進行，以增加病患的安全。訪問多位焦點式超音波專家，探討許多超音波獨有的特性，在現今對於醫療執業上的影響與改變，以及對於未來發展的可能性。