中華民國醫用超音波學會 2022 年第三次學術研討會 暨
第十九屆南區會員代表選舉
地點：漢來大飯店 15 樓會議中心 (高雄市前金區成功一路 266 號)
111 年 7 月 31 日(星期日)

會長：侯明鋒理事長
節目籌備人員：陳芳銘副院長　郭功楷教授　施昇良主任　劉信良醫師
內容：消化系、乳房外科、急診科
會議地點：漢來大飯店 15 樓會議中心(高雄市前金區成功一路 266 號)
報到處：　漢來大飯店 15 樓會議中心 08:30-11:30
投票時間：08:30-11:30
報到費：會員/會友免費　　非會員伍佰元
主辦單位：中華民國醫用超音波學會 高雄醫學大學附設中和紀念醫院

會議相關內容

消化系超音波研討會：會議廳 A
(1)肝腫瘤局部燒灼

時間	頁	題目
08:55-09:00		Opening Remarks (video) 侯明鋒理事長
主持人：王景弘教授 高雄長庚醫院胃腸肝膽科		
09:00-09:30	1	肝腫瘤局部消融概述 An Overview of Liver Tumor LocalaAlation 黃駿逸醫師 高醫附設醫院肝膽胰內科
09:30-09:40	議題討論	
09:40-10:10	1	進階肝癌射頻電燒術治療 Advanced Radiofrequency Ablation (RFA) Treatment of Hepatocellular Carcinoma 紀廣明醫師 高雄長庚醫院胃腸肝膽科
10:10-10:20	議題討論	
10:20-10:40	coffee break	

(2)超音波肝纖維化檢測之應用

主持人：林子堯教授 高醫附設醫院肝膽胰內科		
10:40-11:10	2	超音波非侵入性肝纖維化檢測 Ultrasonic Non-invasive Liver Fibrosis Measurement 葉明倫主任 高醫附設醫院肝膽胰內科檢查室
11:10-11:20	議題討論	
11:20-11:50	3	纖維掃描在肝細胞癌中的臨床應用 Clinical Application of Fibroscan in Patients with Hepatocellular Carcinoma 顏毅豪主任　高雄長庚醫院肝臟科
11:50-12:00	議題討論	

乳房外科超音波研討會：會議廳 B

時間	頁	題目
08:55-09:00		Opening Remarks (video) 侯明鋒理事長
主持人：吳宛玲醫師 台南奇美醫院/高雄馨蕙馨醫院		
09:00-09:40	5	乳房攝影篩檢異常下使用超音波導引真空抽吸切片術 A Minimal-invasive Method with Ultrasound-guided Vacuum-assisted Breast Biopsy for Recalled Mammograms 巫承哲醫師 高雄醫學大學附設醫院

續背面

乳房外科超音波研討會：會議廳 B

主持人：郭雪梨醫師 成功大學醫學院附設醫院/台南馨汝診所		
09:40-10-20	7	利用超音波輔助評估處理乳頭分泌物 To Evaluate and Manage Nipple Discharge with Ultrasound Equipment 高捷妮醫師 高雄醫學大學附設醫院
10:20-10:40	Coffee Break	
主持人：周春平主任 高雄榮民總醫院		
10:40-11:20	7	超音波導引靜脈輸注管套植入 Ultrasound Guided Port-A Catheter Implantation 高理鈞醫師 高雄市立大同醫院
操作者：巫承哲醫師 陳嫈絢醫師 郭家瑜醫師 高雄醫學大學附設醫院		
11:20-12:00		超音波實作: Ultrasound hand on: Core needle biopsy and Vacuum-assisted lesion excision

急診科超音波研討會：會議廳 C

時間	頁	題目
08:55-09:00		Opening Remarks (video) 侯明鋒理事長
主持人： 劉信良醫師 高雄醫學大學附設醫院 林韋均醫師 中國醫藥大學附設醫院急診科		
09:00-09:20	8	超音波在血管急症的應用 林韋均醫師 中國醫藥大學附設醫院急診科
09:20-09:45	8	經食道超音波在急救的應用 朱聖恩醫師 亞東醫院急診科
09:45-10:10	9	如何寫一篇好的超音波影像個案 蔡斗元醫師 大林慈濟醫院急診科
10:10-10:20	Discussion	
10:20-10:40	Coffee Break	
主持人：邱逸群主任 高雄長庚醫院健診中心		
10:40-11:20	9	內視鏡超音波於消化疾病之應用 Application of EUS on Digestive Tract 施翔耀主任 高雄醫學大學附設醫院消化內視鏡室
主持人：郭功楷教授 高雄醫學大學附設醫院外科		
11:20-12:00	10	手持無線超音波之應用 黃文成主任 萬芳醫院急診科

醫 學 會	積 分	醫 學 會	積 分
台灣醫學會	3.2 分	台灣家庭醫學醫學會	乙類 3 點
台灣內科醫學會	B5 分	台灣外科醫學會	10 分
中華民國放射線醫學會	3 分	台灣婦產科醫學會	B 類 2 分
台灣消化系醫學會	B 類 2 分	台灣乳房醫學會	3 分
中華民國重症醫學會	2 分	台灣急救加護醫學會	3 分
台灣胸腔及心臟血管外科學會	2.5 分	台灣老年學暨老年醫學會	乙類 2 分
台灣神經學學會	2.66 分	台灣老人急重症醫學會	乙類 5 分
中華民國神經放射線醫學會	1 分	台灣專科護理師學會	3.2 分
中華民國醫事放射學會	3.2 分	護理師/護士積分認證	3.2 分
台灣醫事檢驗學會	3.2 分	國健局乳癌篩檢計畫認證 (放射線醫學會會員、放射師)	1 小時
公務人員繼續教育認證	4 小時	超音波繼續教育課程認證 (會員/會友報到即可，不須簽名)	25 分

最新專科學會積分，請至學會網站查閱。 www.sumroc.org.tw

An Overview of Liver Tumor Local Ablation

黃駿逸醫師
高雄醫學大學附設中和醫院肝膽胰臟內科

In general, patients with liver isolated HCC who are not candidates to surgical resection or liver transplantation, liver-directed therapy are preferable. We review the local thermal ablation therapies, include percutaneous ethanol injection (PEI), radiofrequency ablation (RFA), microwave ablation (MWA).

RFA relies on a needle electrode to deliver a high-frequency alternating current from the electrode inti the tissue. Tumors >3cm often require more than one deployment of the needle electrode.

MWA is an alternative to RFA. The electromagnetic microwaves are emitted to agitate water molecules, producing friction and heat. The advantages over RFA include higher intratumor temperature, larger tumor ablation volumes, faster tumor ablation, and lower heat sink response.

PEI, Injection of 95 percent ethanol into a tumor through a needle can induce local coagulation necrosis.

For most patients with a small (<5cm) HCC, we suggest the local thermal ablation over other forms of nonsurgical local therapy.

Advanced Radiofrequency Ablation (RFA) treatment for Hepatocellular Carcinoma

紀廣明醫師
高雄長庚院肝膽胃腸科

Radiofrequency Ablation (RFA) is one of the most common local ablation treatments for hepatocellular carcinoma (HCC). The RFA treatment has potential cure for those small HCCs. The goal of RFA treatment for HCCs is to maximize complete ablation rates, meanwhile avoiding and lowering the complication rates. For treating the tumors that at high-risk areas and difficult to approach, and small tumors size with poor conspicuous, some essential methods are required, such as technical skills, delicate ultrasound, fusion imaging, contrast-enhanced ultrasound, creation of artificial ascites or artificial pleural effusion. In addition, pretreatment planning, during treatment and post treatment evaluations of RFA also important for treatment success. In this lecture, we will discuss how to approach these patients with these methods.

Ultrasonic non-invasive Liver Fibrosis Measurement

葉明倫主任
高雄醫學大學附設醫院肝膽胰內科檢查室

Liver fibrosis assessment plays a crucial role determining the disease progression, prognosis, need of treatment, and response in patients of chronic liver disease. Liver biopsy has been the gold standard for liver fibrosis assessment in past decades. However, liver biopsy is impractical in clinical practice owing to the invasive procedure and risk of complications. The sampling error and inter-observer variation also make the results in doubt presenting the real fibrosis status. Hence, various non-invasive assessments have been developed and currently adopted in most of the international guidelines. Two kinds of non-invasive assessments are now applied including physical modalities, like shear wave elastography, magnetic resonance elastography, and serum test formulae, like fibrosis-4 (FIB-4), AST to Platelet Ratio Index (APRI), FibroTest, etc. There are kinds of ultrasound-based shear wave elastography including transient elastography (FibroScan), point shear wave elastography (ARFI), and multidimensional shear wave elastography. Of them, transient elastography is one of the most famous methods. Transient elastography has been widely validated and is an accurate and reproducible method in the assessment of different etiologies of liver disease, including hepatitis B, hepatitis C, and non-alcoholic fatty liver disease. One challenge of the ultrasound-based shear wave elastography is the confounding effect of alanine aminotransferase level. Therefore, decrease in liver stiffness measurement may only reflect subside of liver inflammation, not the real regression of liver fibrosis. Combined serum biomarkers may increase the accuracy of transient elastography in the assessment of fibrosis and prediction of hepatocellular carcinoma.

Clinical application of FibroScan in Patients with Hepatocellular Carcinoma

顏毅豪主任
高雄長庚醫院肝臟科

Clinically significant portal hypertension defined by BCLC guidelines [1]

CSPH:
1. hepatic vein pressure gradient of more than 10 mm Hg.
2. The presence of oesophageal varices (including form 1, no red color sign)
3. splenomegaly associated with a platelet count lower than 100×10^9 cells per L

The gold standard to assess portal pressure: hepatic venous pressure gradient. HVPG measurements require specific expertise, are invasive, relatively expensive, and not available in all centers. noninvasive or surrogate indicators are increasingly utilized at most centers [2].

NONINVASIVE TESTS IN THE DIAGNOSIS OF CLINICALLY SIGNIFICANT PORTAL HYPERTENSION [2]
1. Physical exam
2. Lab
3. Images
4. FibroScan

Advantages of Transient elastography [3]
1. Most widely used and validated technique
2. Point-of-care (bedside; rapid, easy to learn)
3. Quality criteria well defined
4. Good reproducibility
5. High performance for cirrhosis (AUROC >0.9)
6. Prognostic value in compensated cirrhosis well validated

Disadvantages of Transient elastography
1. Requires a dedicated device
2. region of interest cannot be chosen (operator dependence)
3. False positive in case of obesity, acute hepatitis, extrahepatic cholestasis, liver congestion, food intake and excessive alcohol intake

Diagnosis of CSPH in patients with cACLD (including all etiologies: HCV, HBV, ALD，Non-obese NASH
1. LSM by TE ≦15 kPa plus platelet count ≧ 150x 109/L rules out CSPH in patients with cACLD.

2. LSM value by TE of $\geqq$ 25 kPa rule in CSPH

References:

1. LLOVET et al. SEMINARS IN LIVER DISEASE-VOL. 19, NO. 3, 1999
2. GARCIA-TSAO ET AL. HEPATOLOGY, VOL. 65, NO. 1, 2017
3. EASL Clinical Practice Guidelines on non-invasive tests for evaluation of liver disease severity and prognosis – 2021 update Journal of Hepatology 2021
4. J Hepatol 2022 Apr;76(4):959-974. doi: 10.1016/j.jhep.2021.12.022

乳房攝影篩檢異常下使用超音波導引真空抽吸切片術
A minimal-invasive method with ultrasound-guided vacuum-assisted breast biopsy for recalled mammograms

巫承哲醫師
高雄醫學大學附設中和紀念醫院 乳房外科
Cheng-Che Wu
Division of Breast Oncology and Surgery, Kaohsiung Medical University Hospital

Purpose

When a patient was recalled from mammography reported BIRADS category 4a, there is about a 10% risk that the lesion will be malignant. The goal of the biopsy is to obtain sufficient diagnostic tissue using the least invasive approach, and ultrasound-guided biopsy is usually better tolerated in comparison to stereotactic biopsy. However, some impalpable target lesions are not well-visualized by ultrasound, thus requiring mammography-localization before the procedure. Most but not all patients are candidates for stereotactic core biopsy. Those who are not able to lie prone, who have lesions that are located too superficial to skin or too deeply close to the pectoralis muscle, are candidates for ultrasound-guided breast biopsy.

Materials and Methods

We have conducted a retrospective observational study, collected a total number of 284 patients who had undergone vacuum-assisted breast biopsy after mammographic localization from March 2019 to April 2021. All patients were sent for mammography localization before the procedure. Under general anesthesia, a 7G EnCor needle was used to penetrate the skin and approach the lesion area under ultrasound guidance. (figure 1)


figure 1

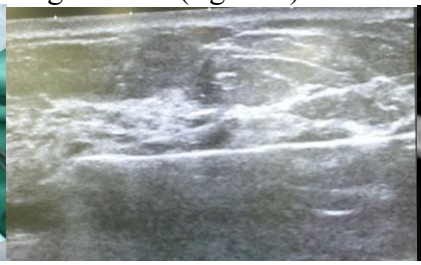


figure 2

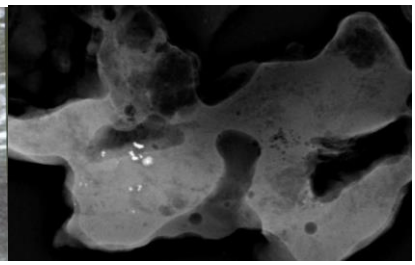


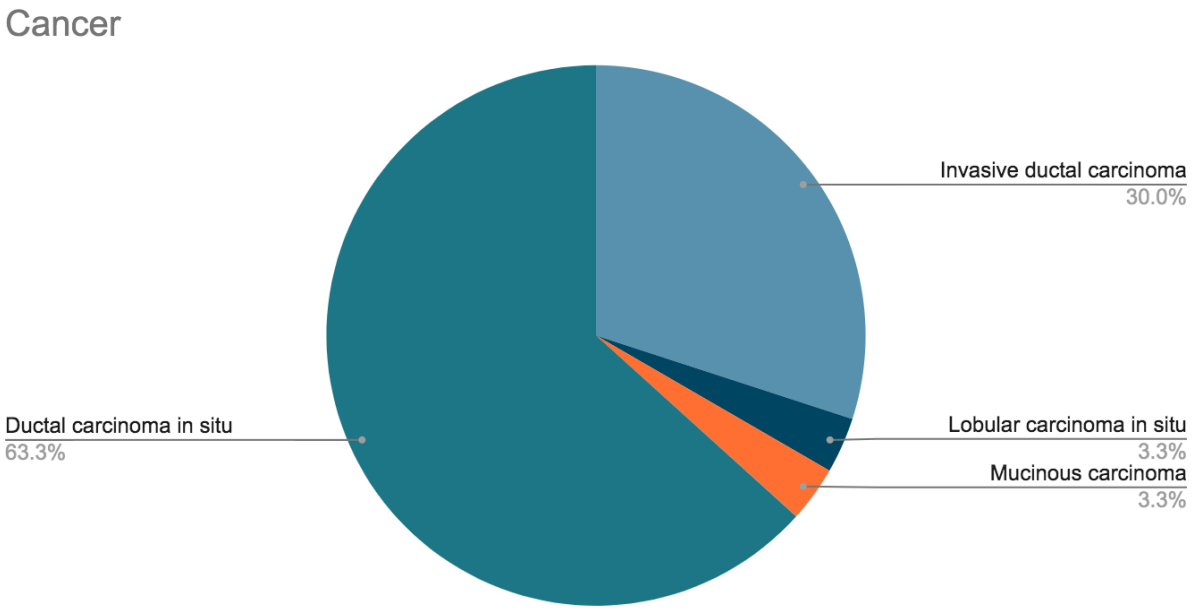
figure 3

With the help of ultrasound, we can visualize in real-time with the mammography hook needle and the EnCor needle in one plane (figure 2) for specimen collection. Finally, specimen mammography (figure 3) was obtained to verify the sufficient amount of microcalcifications, (or in some cases architectural distortions), then the wire can be removed from the patient's breast.

Results

The median age of the 284 patients was 51 years old, and most were located over UOQ in 205 patients (72%). The majority of histology reported fibrocystic change in 195 patients (68.7%),

and a total number of 30 cancer cases were diagnosed (10.56%), having 1 mucinous carcinoma, 9 invasive ductal carcinomas, 19 ductal carcinoma in situ, and 1 lobular carcinoma in situ. Those that were diagnosed with malignancy, all had early-stage cancer and underwent a second operation with breast-conserving surgeries.



Conclusion

Microcalcifications are one indication for mammography-localization. Other breast lesions that are impalpable or invisible to ultrasound such as focal asymmetry and architectural distortion, may also be indicated. When mammography reported BIRADS category 4a, the rate of malignancy is around 2~10%, and further biopsy for pathology proof is suggested. With the rising pursuit for minimally invasive surgical trends, open biopsy has been replaced due to large incisions and longer time to recovery. Stereotactic vacuum-assisted breast biopsy was the most frequently used method for specimen collection, but it is limited to the hands of experienced radiologists with an increased risk of radiation exposure. More and more studies have advocated an alternative method with ultrasound-guided vacuum-assisted breast biopsy combined with mammography-localization, which are frequently well-tolerated by patients at supine positions. The combination use of this method allows direct visualization of the real-time biopsy procedure, with the bonus advantage that other breast lesions such as fibroadenomas can also be taken care of, within one surgery, in one incision.

To Evaluate and manage nipple discharge with ultrasound equipment
利用超音波輔助評估處理乳頭分泌物

高捷妮醫師
高雄醫學大學附設中和紀念醫院 乳房外科

Nipple discharge is a common symptom in the clinic, representing the common leading breast complaint, after pain and lumps. It usually has a benign etiology. The most common causes of pathologic nipple discharge are papilloma and ductal ectasia. However, there is still about 5% risk of malignancy, mainly ductal carcinoma in situ. Mammography and ultrasound used to be the first-line imaging survey. However, mammography has low sensitivity in cases of nipple discharge, because, typically the lesions are tiny, retroareolar, without calcifications. Because the reported sensitivity and specificity of ultrasound, it is important to use the correct technique to search for intraductal lesions in the retroareolar region. In nipple discharge cases, mammography has a sensitivity of 20-25% for the detection of suspicious lesions, compared with 65-85% for ultrasound. How to manage these cases with ultrasound equipment will be introduced. And we will also discuss the pros and cons of the technique.

Ultrasound-Guided Port-A Catheter Implantation
超音波導引靜脈輸注管套植入

高理鈞醫師
高雄市立大同院

Port-A implantation is a mandatory procedure in patients undergoing long-term treatments, such as chemotherapy, antibiotics, or parenteral nutrition. Mostly, we put the port-A catheter into the superior vena cava through its drainage system, including the cephalic vein, the axillary vein, the external jugular vein, etc. Vessel exploration and venipuncture are two major methods of port-A implantation. Venipuncture is an effective method, however, puncture-related pneumothorax or hemothorax might happen without guidance. Vessel exploration is relatively safe but takes more time if an operator can not find an accessible vein. We hereby introduce the ultrasound-guided puncture procedure. We access the vein with the puncture method with ultrasound guidance. It can save time and prevent puncture-related complications as well.

超音波在心血管急症的應用

林韋均醫師
中國醫藥大學附設醫院急診科

對於第一線照顧病人的醫師而言，無論身處在急診、病房或加護病房，面對急重症時候，會有 莫大的壓力，如果我們在第一時間可以先排除或是診斷出心血管急症、需要手術或是立即處 置的情形，將能有效提升醫療品質。本次將簡介在面對 各種主訴或是症狀，如何使用床邊超 音波來輔助或確認診斷心血管急症，以及使用上的技巧與陷阱

經食道超音波在急救的應用

朱聖恩醫院
亞東醫院急診科

心臟驟停一直是醫療上非常棘手的狀況，然而近十年醫學上對於心跳驟停的治療，並沒有太大的突破，治療的準則也並未有太多的修正。且過往心肺復甦的準則，過於著重使用單一的標準來治療所有的病人。21 世紀是精準醫療的時代，隨著科技的發展，超音波將在醫療上扮演至關重要的腳色！透過經食道超音波，急救人員可給予心跳驟停的病人專一且個人化的治療。本節講座將分享：(1)經食道心臟超音波如何加強心肺復甦的成效及最新證據；(2)如何將心臟超音波融入急救團隊的運作；(3)現行亞東醫院急診團隊於此領域的成果；(4)未來展望及發想。

秒懂 Case Image 投稿重點 - 6 個撰稿必學指南
(如何寫一篇好的超音波影像個案)

蔡斗元醫師
大林慈濟醫院急診部、慈濟大學醫學系

對忙碌的急診醫師來說，再牧羊之餘還要振筆疾書，投稿 2000 字以上的 SCI 文章，實在心力交瘁。但是以病為師的我們，總會在臨床工作中令人印象深刻的畫面與影像檢查，如何讓這樣珍貴的畫面，成為 150-300 字的學術文獻，或許會是進入 SCI 門檻的另一道曙光。在急診醫學會大力推廣 POCUS 後，無論新進 PGY、R1 或是資深醫師，心中都有一些令自己印象深刻的超音波影像，你相信這些就是我們可以進入 SCI 的門票嗎? 來看看有一些經驗的醫師，與你分享如何將如雪花般的 POCUS 照片影片，變成刊登在國際期刊的學術文章，以及分享大家投稿時常出現的問題與瓶頸該如何解決。

內視鏡超音波於消化疾病之應用
Application of EUS on Digestive Tract

施翔耀主任
高雄醫學大學附設醫院 胃腸內科消化內室鏡室

內視鏡超音波（endoscopic ultrasound EUS）是種合併內視鏡及超音波功能的檢查，藉由超音波我們可評估腔室外（extraluminal）或上皮下（subepithelial）的病灶，進而獲得更多病灶的資訊，腔室外病灶可評估的器官有胰臟、膽道、淋巴結等，而上皮下病灶上下消化道都可以檢查，內視鏡超音波可提供病灶未來處置的參考。藉由內視鏡超音波導引下細針抽吸切片術（EUS guided fine needle aspiration/biopsy），我們可取得病灶的細胞組織進而可能達到確認診斷，如同腹部超音波可藉由注射超音波對比劑（Sonovue, Sonazoid）對肝臟腫瘤進一步評估，目前內視鏡超音波亦可注射 Sonazoid 讓病灶呈現更多資訊，供診斷或取樣時參考。

近年來，內視鏡超音波的角色從診斷性漸漸進入介入（interventional）的領域，除了之前大家知道的胰臟偽囊腫內引流術（Pseudocyst cystogastrostomy）外，內視鏡超音波導引膽管／胰管引流術（EUS biliary/pancreatic drainage）及內視鏡超音波導引膽囊引流術（EUS GB drainage）持續發展中; 如同可用腹部超音波導引下執行肝臟腫瘤的燒灼治療，內視鏡超音波亦可對胰臟腫瘤施行酒精注射或高頻燒灼的治療。

手持超音波機器的應用

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隨著臨床超音波的應用日漸普及，再加上重點式照護超音波(Point of Care Ultrasound-POCUS)的觀念導入，超音波已經是醫師必備的工具與技能，近年來
超音波機器也往更易攜帶與使用的手持式尺寸發展，以協助醫師可以更方便在床邊即時診斷與治療疾病，在課程中，將會用三個不同的角色來介紹如何做手持式超音波之應用：

一　從臨床醫師的角度：　從文獻回顧去討論手持超音波的使用與優缺點
包含急重症的應用，偏遠地區與遠距醫療，COVID-19 疫情下使用與床邊的超音波導引介入技術，更有效率的從診斷到治療。

二　從醫學教育的角度：利用手持式超音波在醫學生與住院醫師的超音波
教育訓練課程，延伸至到院前的緊急醫療系統，讓超音波的應用不只在臨床現場，更有機會走入訓練的場域，更早讓有需求的醫療團隊可以啟動超音波的學習。

三　從醫院主管的角度：在管理上，透過手持式超音波，可以整體降低醫療的成本，避免醫療糾紛，進而優化醫療的品質。

用不同角度來看手持超音波的使用，讓超音波可以做更全面的推廣與發展，落實醫師效率診斷與精準治療的目標，同時提供更好的病人照護。