Med Ultrason 2022, Vol. 24, no. 2, 248-260

Cardiac myxoma: benign, but deadly disease

Damir Fabijanić[1], Vedran Carević[1], Tina Bečić[1], Valdi Pešutić-Pisac[2]

[1]Department of Cardiology, [2]Department of Pathology, Split University Hospital and University of Split School of Medicine, Split, Croatia

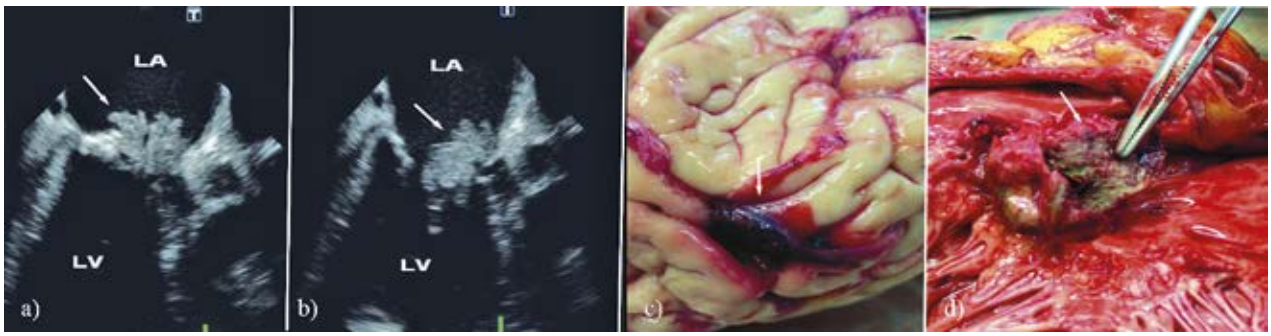

Fig 1. Transesophageal presentation of cardiac myxoma (arrow) in (a) systole and (b) diastole; (c) stroke (arrow) and (d) tumor (arrow) detected at autopsy. LA - left atrium, LV - left ventricle

To the Editor,

A 56-year-old man, without previous diseases, was admitted due to suspicion of mitral valve (MV) infective endocarditis. Within several weeks before admission he was subfebrile, feeling weak and tired. Outpatient transthoracic echocardiography (TTE) showed a mass attached to the anterior leaflet of the MV. There were no other abnormalities on TTE, examination and electrocardiography. Laboratory analyses revealed a microcytic anemia (Hb 118 g/L, MCV 78 fL), leukocytosis (13x109/L) and elevated value of C-reactive protein (45.6 mg/L). Transesophageal echocardiography (TEE) confirmed a filiform mass, approximately 24x11 mm, attached with a wide base to the atrial surface of the anterior MV leaflet (fig 1a,b). Motion was synchronous with the leaflet without signs of MV obstruction or regurgitation. The most presumed diagnosis was a cardiac myxoma (CM). Emergency cardiac surgery was planned. During the night patient suddenly died. Autopsy detected a stroke in the left frontal region (fig 1c) caused with an embolus originating from the tumor on the anterior MV leaflet (fig 1d); histopathological confirmed as CM.

CM, the most frequent primary tumor in adults, commonly occurs in the left atrium; its occurrence on the valves is extremely rare [1]. The patients may present with 1) symptoms or signs of mechanical outflow tract obstruction in about 60% of the patients, imitating clinical presentation of valve stenosis, 2) general/ constitutional signs and symptoms and laboratory abnormalities in 10-45% of patients and 3) embolization of the tumor fragments or thrombus adherent on the tumor surface in the 30-40% of cases [1]. A sudden cardiac death is very rare complication of the CM and may be caused by a valve obstruction, arrhythmia or embolization [1].

TTE allows rapid detection of heart mass [2,3] while TEE provides additional details including tumor binding points, shape, degree of motility, and its relationship to cardiac structures and hemodynamics [3].

CM grows by an average of 0.24-1.6 cm per year [1]. Therefore, this benign but potentially deadly disease can be detected by echocardiography several years before its potentially lethal presentation. This is one of the reasons

Received 22.03.2022 Accepted 14.04.2022
Med Ultrason
2022, Vol. 24, No 2, 248-249, DOI: 10.11152/mu-3678,
Corresponding author: Damir Fabijanić
Department of Cardiology, Split University Hospital and University of Split School of Medicine, 21000 Split, Croatia
E-mail: damirfabijanic62@gmail.com

why we recommend echocardiography as a standard part of periodic preventive examinations in the population older than 40 years.

References

1. Reynen K. Cardiac myxomas. N Engl J Med 1995;333:1610-1617.
2. Fabijanić D, Kardum D, Lukšić B, Carević V. Three-dimensional echocardiography in rapid differentiation of the left ventricular mass - a case of left ventricular myxoma. Med Ultrason 2021;23:117-118.
3. Engberding R, Daniel WG, Erbel R, et al. Diagnosis of heart tumors by transoesophageal echocardiography: a multicentre study in 154 patients. European Cooperative Study Group. Eur Heart J 1993;14:1223-1228.

The histopathological and ultrasonographic features of myopericytoma

Yu-Han Hsueh[1], Chun-Yu Cheng[1,2]

[1]Department of Dermatology, Chang Gung Memorial Hospital and Chang Gung University College of Medicine, [2]Center of Tissue Engineering, Chang Gung Memorial Hospital, Taoyuan, Taiwan

To the Editor

A 56-year-old male presented a painful indurated subcutaneous nodule of his right thumb for 3 weeks. Ultrasonography (US) revealed one well-marginated heterogenous hypoechoic nodule with tubular and ring-shaped hyperechoic structures with posterior acoustic enhancement in subcutis area, measuring 1.39×0.72×0.56 cm (fig 1a). Color Doppler US revealed increased intratumoral vascularity. The patient received excisional biopsy and the histopathology revealed a well-defined nodule composed of mild dilated vessels with concentric perivascular proliferation of oval to spindle cells (fig 1b). Immunohistochemical study showed diffusely positive result for α-smooth muscle actin (SMA) and caldesmon, and focally positive for desmin. The diagnosis of myopericytoma was made based on above findings. No recurrence has been observed in 12 months following up.

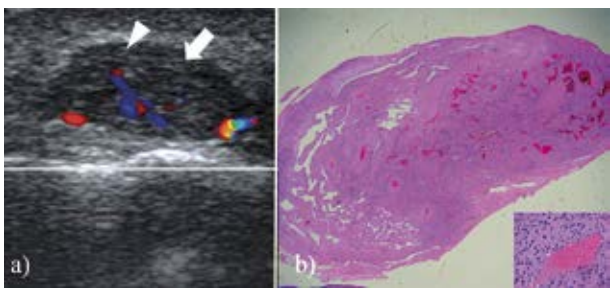

Fig 1. a) Ultrasonography revealed one well-marginated heterogenous hypoechoic nodule with tubular (arrow) and ring-shaped (arrowhead) hyperechoic structures with posterior acoustic enhancement in subcutis and increased intratumoral vascularity; b) A well-defined nodule composed of mild dilated vessels with concentric perivascular proliferation of oval to spindle cells. H&E 40X with 400X inserted at the corner.

Myopericytoma is often a slow growing, well-circumscribed, solitary firm nodule and it commonly affected limbs [1]. Histologically, the tumors are well circumscribed unencapsulated nodule composed of oval to spindle-shaped myopericytes, with thin-walled vessels and a distinguishable concentric perivascular growth. These cells are usually positive for SMA and negative for CD34, cytokeratin, and S100 protein [1]. The stains for desmin and vimentin are rarely focally positive [1].

Only limited reports describing the US features of cutaneous myopericytoma, most of them report it as a well-demarcated homogenous hypoechoic nodule with hypervascularity in color Doppler [2]. In contrast to those, we found tubular and ring-shaped hyperechoic structures within the tumor and we speculated these structures may be correlated with the vascular structures of the tumor.

Received 19.02.2022 Accepted 07.04.2022
Med Ultrason
2022, Vol. 24, No 2, 249-250, DOI: 10.11152/mu-3631,
Corresponding author: Chun-Yu Cheng
Chang Gung Memorial Hospital
199, Tun-Hwa North Road,
Taipei 105, Taiwan
Phone: +886-2-27135211-3397
E-mail: dermatology99999@gmail.com

The mixed component of vascular channel and neoplasia of myopericytes results in heterogeneity in US.

US is useful for differentiating myopericytoma from other vascular tumors. For example, angioleiomyoma is usually a well-defined homogenously hypoechoic lesion with posterior enhancement and hypervascularity in color Doppler [3]. On US, most glomus tumors present with well-marginated homogenous hypoechoic nodule and increased blood flow [4]. As for myofibroma, a biphasic pattern with hypoechoic center surrounded by an isoechoic rim was described.

In summary, the present study demonstrated the histopathological and US correlation of myopericytoma. US is valuable for assisting us in diagnosing this tumor.

Re.ferences

1. Mentzel T, Dei Tos AP, Sapi Z, Kutzner H. Myopericytoma of skin and soft tissues: clinicopathologic and immunohistochemical study of 54 cases. Am J Surg Pathol 2006;30:104-113.
2. Van Camp L, Goubau J, Van den Berghe I, Mermuys K. Myopericytoma of the Base of the Finger: Radiological and Pathological Description of a Rare Benign Entity. J Hand Surg Am 2019;44:69.e1-69.e5.
3. Kang BS, Shim HS, Kim JH, et al. Angioleiomyoma of the Extremities: Findings on Ultrasonography and Magnetic Resonance Imaging. J Ultrasound Med 2019;38:1201-1208
4. Fan Z, Wu G, Ji B, et al. Color Doppler ultrasound morphology of glomus tumors of the extremities. Springerplus 2016;5:1319

Ultrasound imaging and treatment in a rare case with bilateral supinator syndrome

Hsueh-Wen Hsueh[1,2], Kuo-Chang Wei[3], Sung-Pin Fan[1], Chueh-Hung Wu[3]

[1]Department of Neurology, National Taiwan University Hospital, [2]Department of Anatomy and Cell Biology, National Taiwan University College of Medicine, [3]Department of Physical Medicine and Rehabilitation, National Taiwan University Hospital, College of Medicine, National Taiwan University, Taipei, Taiwan

To the Editor,

A 72-year-old man with diabetes mellitus presented with acute left drop wrist, followed 2 weeks later by right drop wrist. There was no major traumatic event. The active movement of bilateral wrist and finger extensors was not detectable at clinic. Nerve conduction studies in the bilateral radial nerve revealed normal compound muscle action potential and sensory nerve action potential. Electromyography revealed active denervation in the right extensor indicis proprius, with no motor unit action potential observed. The workup for secondary causes of multiplex mononeuropathy, such as anti-neutrophil cytoplasmic antibody and cryoglobulinemia, revealed no specific abnormalities. In addition, the serum lead level was normal. Ultrasonography (US) revealed bilateral posterior interosseous nerve narrowing and proximal swelling at the arcade of Frohse (fig 1a). It was determined that the patient had bilateral posterior interosseous neuropathy (PIN). The patient had a hydrodissection to the deep motor branch of the bilateral radial nerves under US guidance, just proximal to the supinator muscles (fig 1b). Notably, 3 days after the procedure, the left drop wrist improved significantly. Furthermore, 3 weeks later, active movement of the right wrist extensor was detectable.

In the investigation of bilateral drop wrist, lead intoxication is the main consideration. Our patient had no history of lead exposure and the serum lead level was normal, implying that lead intoxication was less likely to be the cause in our patient. Another factor to consider is vasculitis-related mononeuropathy multiplex [1]. The vasculitis workup, on the other hand, was normal and our patient had no livedo reticularis or other systematic

Received 08.04.2022 Accepted 26.04.2022
Med Ultrason
2022, Vol. 24, No 2, 250-251, DOI: 10.11152/mu-3707,
Corresponding author: Chueh-Hung Wu, MD, PhD
Department of Physical Medicine and Rehabilitation, National Taiwan University Hospital,
College of Medicine,
National Taiwan University, Taipei
7, Zhongshan S. Rd., Zhongzheng Dist.,
Taipei City 100, Taiwan
E-mail: b88401062@ntu.edu.tw;
nojred@gmail.com

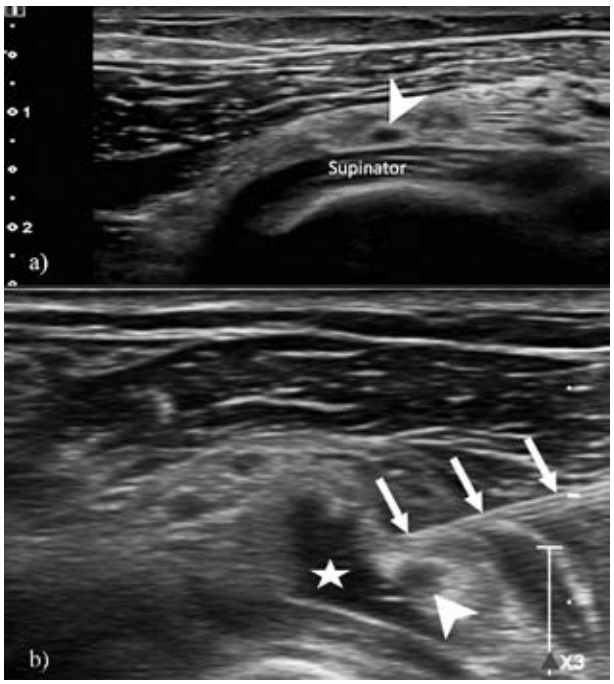

Fig 1. Ultrasound image of radial nerve at level just proximal to supinator muscle (a) and further hydrodissection with dextrose solution under ultrasound guidance (b). Note that the deep motor branch of radial nerve (arrowhead) was swollen before entering supinator muscle. Arrowhead, deep motor branch of radial nerve; Arrow, needle; asterisk, anechoic dextrose solution.

vasculitis symptoms. In this case, entrapment by supinator muscles as the cause of bilateral PIN was supported by ultrasonographic entrapment signs and a positive response to hydrodissection [2]. Although bilateral radial nerve entrapment at supinator muscle was rare [3], it should be considered as a possible alternative diagnosis for bilateral drop wrist. In the case of peripheral entrapment neuropathy, an US exam could precisely localize the compression site and provide accurate guidance for potential treatment options such as hydrodissection [4].

References

1. Gwathmey KG, Tracy JA, Dyck PJB. Peripheral Nerve Vasculitis: Classification and Disease Associations. Neurol Clin 2019;37:303-333.
2. Wee TC, Wu CH, Chen WS, Wang TG. Sonographic Evaluation of the Posterior Interosseous Nerve in a Patient With Wrist Drop. Am J Phys Med Rehabil 2018;97: e68.
3. Richter HJ, Berbig R, Segantini P. Bilateral radial nerve compression syndrome in an elite swimmer: a case report. Am J Sports Med 2002;30:614-617.
4. Wei KC, Wu CH, Özçakar L. Ultrasound Imaging and Guidance in the Diagnosis and Hydrodissection of Superficial Radial Nerve Entrapment After Fracture Surgery. Pain Med 2020;21:2001-2002.

Pathology and ultrasound findings in diffuse sclerosing thyroid papillary carcinoma

Jinchang Huang[1], Yanzhen Sun[1], Xiangnan Fang[2]

[1]Department of Pathology, Ganzhou People's Hospital, [2]Department of Endocrinology, First Affiliated Hospital of Gannan Medical University, Ganzhou, Jiangxi, PR China

Received 26.02.2022 Accepted 14.04.2022
Med Ultrason
2022, Vol. 24, No 2, 251-252, DOI: 10.11152/mu-3643,
Corresponding author: Xiangnan Fang
Department of Endocrinology,
First Affiliated Hospital of
Gannan Medical University,
128 Jinling Avenue, Zhanggong District,
Ganzhou, Jiangxi 341000, PR China
Phone/fax: +86 15297896727
+86 0797-8685529
E-mail: xiangnan1215@yeah.net

To the Editor,

A 16-year-old woman was hospitalized following the diagnosis of thyroid nodules. The patient did not have an excessive drinking habit, increased appetite, and emotional excitement.

Ultrasound revealed that the left thyroid lobe had scattered points. The mass had evident strong spots in the lower pole, with unclear boundaries (fig 1a). Color Doppler flow imaging (CDFI) showed a small blood flow

signal in this area. Vertically growing, irregular-edged, quasicircular nodules were found on the ventral side of the left thyroid lobe's upper pole (fig 1b). They were solid and hypoechoic with enhanced peripheral echo. CDFI showed no obvious blood flow signal in the mass.

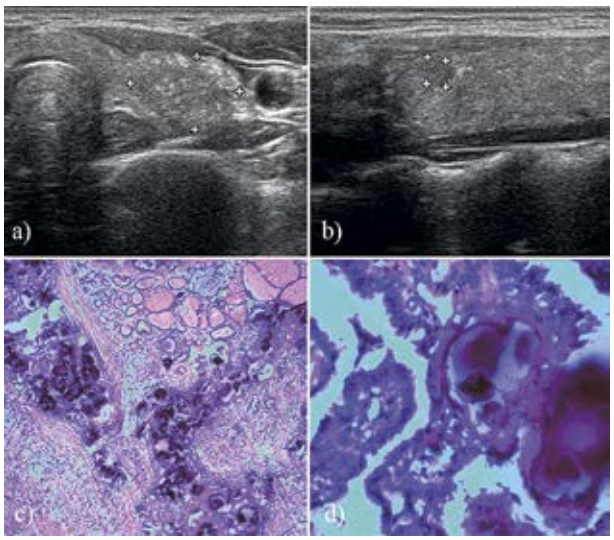

Fig 1. a) The left lobe thyroid is seen with many divergent points and evident strong spot clusters with unclear boundaries. Color Doppler flow imaging showed small blood flow signal in the area; b) On the ventral side of the left thyroid lobe's upper pole is a quasicircular, rough-edged nodule that vertically grew. Internally, it is solid and hypoechoic and had an enhanced peripheral echo; c) Microscopically, the lesions were diffuse (hematoxylin and eosin [H&E] stain, ×50); d) At high magnification, the nuclear characteristics of papillary carcinoma and massive calcification are seen (H&E stain, ×400).

The patient underwent extended radical resection of the left thyroid cancer. Routine postoperative pathology revealed diffuse sclerosing thyroid papillary carcinoma (DSVPTC) with Hashimoto's disease. Thirty center lymph nodes showed 11 papillary carcinoma metastases (fig 1c, d).

In DSVPTC, typical microscopic histological features include diffuse lobe (one or both) involvement, obvious sclerosis, severe lymphoplasmacytic infiltration, abundant sand particles, scattered papillary carcinoma islands with squamous/scaly differentiation, and occasionally, an independent mass and extensive lymphocyte infiltration.

Ultrasound diagnosis is a preferred, simple, convenient, rapid, noninvasive, and reproducible preoperative method for the diagnosis of thyroid diseases. Nodule absence and fine-needle aspiration cytological sample inadequacy make preoperative diagnosis challenging. Thus, ultrasound-guided pathological cytology is recommended [1].

DSVPTC's biological behavior differs from that of classical papillary carcinoma, which is more invasive and has a higher rate of lymph node and prominent distant metastases [2].

References

1. Lee JY, Shin JH, Han BK, et al. Diffuse sclerosing variant of papillary carcinoma of the thyroid: imaging and cytologic findings. Thyroid 2007;17:567-573.
2. Vuong HG, Kondo T, Pham TQ, et al. Prognostic significance of diffuse sclerosing variant papillary thyroid carcinoma: a systematic review and meta-analysis. Eur J Endocrinol 2017;176:433-441.

Peritendinous effusion of the flexor hallucis longus tendon as a sign of ankle joint capsule injury

Chen-Yu Hung[1], Daniel Chiung-Jui Su[2], Wei-Ting Wu[1,3], Ke-Vin Chang[1,3,4]

[1] Department of Physical Medicine and Rehabilitation, National Taiwan University Hospital, Bei-Hu Branch, Taipei, [2]Department of Physical Medicine and Rehabilitation, Chi-Mei Medical Center, Tainan, [3]Department of Physical Medicine and Rehabilitation, National Taiwan University College of Medicine, Taipei, [4]Center for Regional Anesthesia and Pain Medicine, Wang-Fang Hospital, Taipei Medical University, Taipei, Taiwan

To the Editor,

A 26-year-old male, with acute right ankle sprain two weeks ago, came to the clinic with limping gait. Pain and swelling were noted over the right ankle, where anterior talofibular ligament and calcaneofibular ligament (CFL) partial tear were shown on the ultrasound (US) images. Peritendinous effusion was identified surrounding the flexor hallucis longus (FHL) tendon with a likely rupture of the posterior ankle joint capsule (fig 1A). The dynamic US examination demonstrated communication between the posterior ankle joint and FHL's tendon sheath (Video 1, on the journal site) and the diagnosis of ankle capsule rupture was confirmed by magnetic resonance imaging (fig 1B). The patient received twice a platelet-rich plasma injections with splinting for six weeks and had 80% of symptom improvement thereafter.

The FHL is the largest muscle at the posterior ankle with the tendon coursing distally across the ankle and subtalar joint. The FHL tendon serves as the floor of the tarsal tunnel with the medial and lateral plantar nerves passing above it [1]. Effusion surrounding the FHL is often associated with stenosing tenosynovitis [2]. However, severe ankle sprain may cause effusion besides the FHL derived from a communicative tract between the tendon sheath and the ankle joint with a ruptured capsule. Likewise, patients with CFL tears may present with fluid within the peroneal tendon sheath [3], whereas effusion surrounding the toe flexor tendon sheath can be visualized in those with plantar plate tears [4].

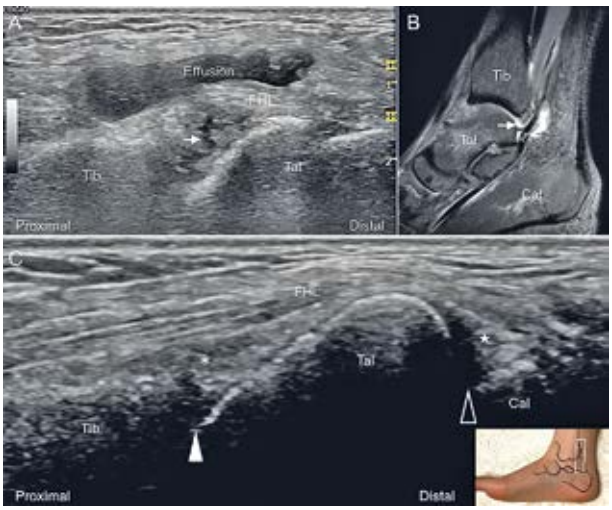

Fig 1. A) The ultrasound examination revealed peritendinous effusion along the long axis of the flexor hallucis longus (FHL) tendon and rupture of the posterior ankle joint capsule (arrow); B) The magnetic resonance imaging confirmed a ruptured ankle joint capsule with effusion extending to the FHL tendon sheath; C) The ultrasound imaging on the normal side with the transducer placing along the long axis of FHL tendon. The right lower insert indicates the transducer position. White arrowhead, posterior ankle joint; black arrowhead: posterior subtalar joint; asterisk: posterior capsule of the ankle joint; star: posterior capsule of the subtalar joint; Cal, calcaneus. Tal, talus; Tib, tibia.

In a routine US examination, only the anterior ankle pouch and the lateral subtalar joint are inspected [5]. When FHL peritendinous effusion is noted, as demonstrated in this case, we recommend to additionally scan along the long axis of the FHL tendon at the tarsal tunnel to evaluate adjacent joint capsule integrity (fig 1C). Based on the close anatomical relationships, examination

Received 06.12.2022 Accepted 09.01.2022
Med Ultrason
2022, Vol. 24, No 2, 253-254, DOI: 10.11152/mu-3519,
Corresponding author: Ke-Vin Chang, MD, PhD
Department of Physical Medicine and Rehabilitation, National Taiwan University Hospital, Bei-Hu Branch, 87 Neijiang St, Wanhua District, Taipei City 108, Taiwan
E-mail: kvchang011@gmail.com

of the posterior ankle and subtalar joint capsule is mandatory before attributing the peritendinous effusion of the FHL to tenosynovitis.

References

1. Hung CY, Chang KV, Mezian K, et al. Advanced Ankle and Foot Sonoanatomy: Imaging Beyond the Basics. Diagnostics (Basel) 2020;10:160.
2. Tonogai I, Sairyo K. Posterior Arthroscopic Treatment of a Massive Effusion in the Flexor Hallucis Longus Tendon Sheath Associated with Stenosing Tenosynovitis and Os Trigonum. Case Rep Orthop 2020;2020:6236302.
3. Wang XT, Rosenberg ZS, Mechlin MB, Schweitzer ME. Normal variants and diseases of the peroneal tendons and superior peroneal retinaculum: MR imaging features. Radiographics 2005;25:587-602.
4. Bianchi S. Practical US of the forefoot. J Ultrasound 2014;17:151-164.
5. Özçakar L, Kara M, Chang KV, et al. EURO-MUSCULUS/USPRM. Basic Scanning Protocols for Ankle and foot. Eur J Phys Rehabil Med 2015;51:647-653.

"Pseudowashout" artifact on liver haemangioma on CEUS: what to expect and how to avoid!

Angeliki Papachristodoulou[1], Vasileios Rafailidis[1], Evangelos Chartambilas[1], Gibran Timothy Yusuf[2], Panos Prassopoulos[1]

[1]Department of Radiology, AHEPA University Hospital of Thessaloniki, Aristotle University of Thessaloniki, Greece,
[2]Department of Radiology, King's College Hospital NHS, Foundation Trust, London, UK

To the Editor,

A focal liver lesion (FLL) was detected in a 55-year-old female patient undergoing CT. Contrast-enhanced ultrasound (CEUS) was requested for characterization, showing peripheral arterial enhancement, iso-enhancement on venous phase and central delayed wash-out (fig 1). A second microbubbles dose was administered as these features were suspicious for metastasis. Maximum intensity projection (MIP) visualized discontinuous peripheral nodular arterial enhancement. Intermittent scanning to prevent microbubbles destruction, demonstrated no wash-out. MRI also confirmed the diagnosis of haemangioma.

Ultrasound (US) is useful for investigating FLL, with CEUS being a well-established technique [1]. In detail, CEUS is recommended for patients with inconclusive CT/MRI, or in incidentally detected FLL in patients with no history of cirrhosis or malignancy [1]. Liver incidentalomas are found in a third of radiological studies and in half of the autopsies of adult patients; thus a common indication for imaging [2,3]. Imaging features of liver haemangioma on CEUS are equivalent to CT/MR; arterial peripheral nodular enhancement, centripetal partial or complete enhancement and sustained delayed enhancement. Central regions of thrombus remain non-enhancing throughout the scan. Contrarily, wash-out on CEUS is suggestive of malignancy, thus necessitating further characterization with imaging or biopsy [1]. A meta-analysis confirmed 92% sensitivity and 90% specificity of CEUS for this indication [4]. Pseudowash-out is a crucial artifact encountered in liver CEUS, describing the appearance of wash-out, artifactually caused by the destruction of slow-flowing microbubbles inside the lesion due to the prolonged and continuous scanning in the same plane. The longer a microbubble stays within the plane, the likelier it is disrupted. A hint for the identification of this artifact is simultaneous destruction of near-field microbubbles. This artifact can be mitigated by reducing the mechanical index and frame rate or by employing an intermittent pattern of scanning, hence better preserving microbubbles. The use of a second dose of microbubbles is useful as the arterial wash-in can be better appreciated using MIP, while the presence of wash-

Received 01.02.2022 Accepted 06.04.2022
Med Ultrason
2022, Vol. 24, No 2, 254-255, DOI: 10.11152/mu-3606,
Corresponding author: Vasileios Rafailidis
Department of Radiology, AHEPA University Hospital of Thessaloniki, Aristotle University of Thessaloniki, Greece, 1 Kiriakidi street, PC 54636, Thessaloniki, Greece
Phone: 00306976161113
E-mail: billraf@hotmail.com

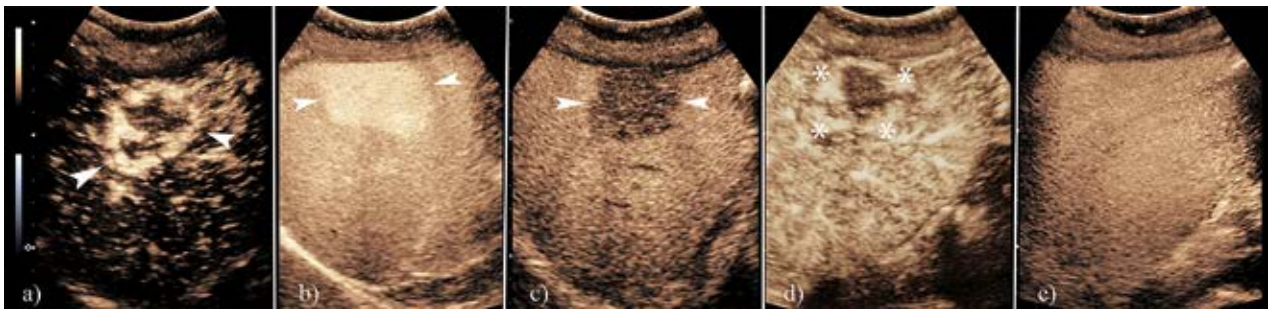

Fig 1. CEUS of a liver haemangioma with pseudo-washout. Early arterial phase (a) showing lesion (arrowheads) rim arterial hyper-enhancement. Late venous phase (b) demonstrating homogeneous hyper-enhancement. Delayed phase (c) showing homogeneous mild wash-out. Second-dose early arterial phase temporal maximum intensity projection (d) evidencing the peripheral nodular pattern of enhancement (asterisks). Delayed phase image (e) showing no wash-out.

out is more confidently studied by using intermittent and low-MI scanning with longer time intervals between scanning periods [5].

References

1. Dietrich CF, Nolsøe CP, Barr RG, et al. Guidelines and Good Clinical Practice Recommendations for Contrast-Enhanced Ultrasound (CEUS) in the Liver-Update 2020 WFUMB in Cooperation with EFSUMB, AFSUMB, AIUM, and FLAUS. Ultrasound Med Biol 2020;46:2579-2604.
2. Algarni AA, Alshuhri AH, Alonazi MM, Mourad MM, Bramhall SR. Focal liver lesions found incidentally. World J Hepatol 2016;8:446-451.
3. Boutros C, Katz SC, Espat NJ. Management of an incidental liver mass. Surg Clin North Am 2010;90:699-718.
4. Friedrich-Rust M, Klopffleisch T, Nierhoff J, et al. Contrast-Enhanced Ultrasound for the differentiation of benign and malignant focal liver lesions: a meta-analysis. Liver Int 2013;33:739-755.
5. Fetzer DT, Rafailidis V, Peterson C, Grant EG, Sidhu P, Barr RG. Artifacts in contrast-enhanced ultrasound: a pictorial essay. Abdom Radiol (NY) 2018;43:977-997.

Ultrasound examination for a heel scar: seeing/treating the painful superficial fascia

Carmelo Pirri[1], Carla Stecco[1], Nina Pirri[2], Raffaele De Caro[1], Levent Özçakar[3]

[1]Department of Neurosciences, Institute of Human Anatomy, University of Padova, Padova, Italy, [2]Department of Medicine-DIMED, School of Radiology, Radiology Institute, University of Padova, Padova, Italy, [3]Department of Physical and Rehabilitation Medicine, Hacettepe University Medical School, Ankara, Turkey

To the Editor,

A scar impacts the patient's quality of life and the actual reason why it does so, needs to be elucidated by clinicians [1]. We report the use of ultrasonography (US) in the management of a disabling scar.

A 32-year-old woman was seen due to pain and limited motions in the right ankle (worse in the morning and during walking) for the last two months. She reported a ragged wound over her right Achilles tendon after a bicycle accident seven yeawrs ago. She was not able to fully dorsiflex her ankle due to severe pain. Plain radiographs had been negative and medical/physical treatment had been ineffective.

Physical examination revealed mild limitation in the right ankle dorsiflexion and tenderness over the scar

Received 25.03.2022 Accepted 15.04.2022
Med Ultrason
2022, Vol. 24, No 2, 255-256, DOI: 10.11152/mu-3689,
Corresponding author: Carmelo Pirri
Department of Neurosciences, Institute of Human Anatomy, University of Padova, 67 Via Gabelli, 35121, Padova, Italy
E-mail: carmelop87@hotmail.it

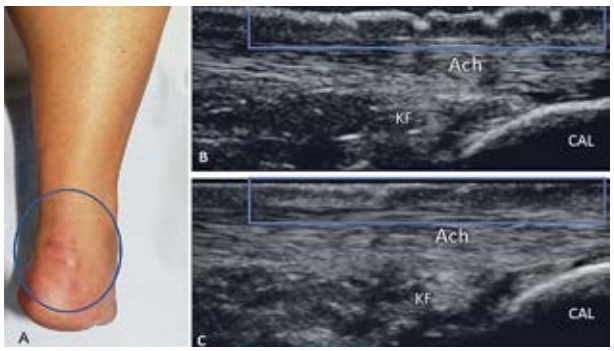

Fig 1. Scar tissue at physical exam (A). Initial longitudinal scanning shows thickening of the subcutaneous tissue, in particular of the superficial fasciae and of the retinacula cutis superficialis (B). Repeat imaging demonstrated reduction of the thickness and restored normal tension (C). Ach, Achilles tendon; KF: Kager's fat pad; CAL: calcaneus.

(fig 1A). Ankle US examination (6-15 MHz, Sonosite Edge II, FUJIFILM) was performed [2]. US demonstrated thickening of the subcutaneous tissues pertaining to the superficial fascia and retinacula cutis superficialis – with hyperechoic thickenings (fig 1B). Sono-palpation of the scar stretched the retinacula cutis and caused significant pain. Power Doppler imaging was normal.

Three sessions of manual therapy (Fascial Manipulation®) were prescribed and one week after the last session, her complaints improved significantly i.e. she could walk without any pain/stiffness. Repeat US also confirmed the decrease in thicknesses of the aforementioned superficial tissues (fig 1C).

In this case, substantial US imaging (including sonopalpation) uncovered the exact pain generator in the subcutaneous tissues including superficial fasciae [1,3]. Accordingly, prompt management was done with in-depth understanding of the symptomatology and tissue biomechanics, as well as targeted intervention whereby reorganization of the subcutaneous tissue caused mechanical stress on the fascial layers, triggering inflammation and stiffness during the healing process [4-6].

References

1. Pirri C, Stecco A, Fede C, De Caro R, Stecco C, Özçakar L. Ultrasound imaging of a scar on the knee: Sonopalpation for fascia and subcutaneous tissues. Eur J Transl Myol 2020;30:8909.
2. Özçakar L, Kara M, Chang KV, et al. EURO-MUSCULUS/USPRM. Basic Scanning Protocols for Ankle and foot. Eur J Phys Rehabil Med 2015;51:647-653.
3. Pirri C, Stecco C, De Caro R, Foti C, Özçakar L. Radiating Upper Limb Pain Due to a Large Subcutaneous Lipoma: Fascial Sono-Palpation. Pain Med 2020;21:3721-3723.
4. Pirri C, Fede C, Petrelli L, et al. Elastic Fibres in the subcutaneous tissue: Is there a difference between superficial and muscular fascia? A cadaver study. Skin Res Technol 2022;28:21-27.
5. Stecco C, Pirri C, Fede C, Yucesoy CA, De Caro R, Stecco A. Fascial or muscle stretching? A narrative review. Appl Sci 2021;11:307.
6. Pirri C, Fede C, Pirri N, et al. Diabetic Foot: The Role of Fasciae, a Narrative Review. Biology (Basel) 2021;10:759.

Clinical and ultrasound findings of sarcomatoid renal cell carcinoma

Bing Xiong[1]*, Xiaowei Zhang[2]*, Bifei Huang[2]

** the authors share the first authorship*

[1]Department of Urology Surgery, [2]Department of Pathology, Dongyang Hospital Affiliated with Wenzhou Medical University, Dongyang, Zhejiang, P.R. China

Received 09.02.2022 Accepted 14.04.2022
Med Ultrason
2022, Vol. 24, No 2, 256-257, DOI: 10.11152/mu-3617,
Corresponding author: Bifei Huang
Department of Pathology, Dongyang Hospital Affiliated with Wenzhou Medical University, 60 West Wuning Road, Dongyang, Zhejiang, 322100, P.R.China
Phone/fax: +86 057986856765
+86 057986856765
E-mail: hbfx711023@163.com

To the Editor

A 76-year-old man was hospitalized for gross hematuria without known cause.

Ultrasound revealed multiple bright light masses in the right kidney, the larger one measuring approximately 13x7 mm with acoustic shadowing. A slightly hyperechoic mass, approximately 51x42 mm, was seen at the lower pole of the right kidney, with a clear boundary

and uneven internal echo (fig 1a). There was no obvious blood flow signal.

Computed tomography showed that the mass shadow in the lower pole of the right kidney was very dense and strengthened after enhancing the upper edge of the mass. Contrast-enhanced magnetic resonance imaging showed a quasi-circular abnormal signal shadow in the right kidney. Both T1WI and T2WI showed mixed signals and patchy unevenness was observed after enhancement.

Postoperative pathological results indicated sarcomatoid renal cell carcinoma (SRCC) in the right kidney (fig 1b). Immunohistochemistry results were the following: CK (+), Vimentin (+), CD10 (+), Pax8 (+), CK7 (-), CK20 (-), p63 (-), MyoD1 (-), desmin (-), MSA (-), HMB45 (-), S-100 (-), CD34 (-), CD68 (-), p53 (+), Ki-67 (+ 30%).

SRCC rarely occurs in the kidneys, accounting for less than 1% of adult renal cell carcinomas. It is highly malignant with a poor prognosis, often spreading and metastasizing outside the kidney [1]. SRCC should be diagnosed and treated early, and radical nephrectomy remains the primary treatment method. Recent studies have found that immunotherapy might also be effective [2].

In our case, the preoperative imaging examination of this patient revealed find renal neoplasm, but it was difficult to judge the tissue subtype. After radical surgery, pathological examination confirmed SRCC with huge necrosis.

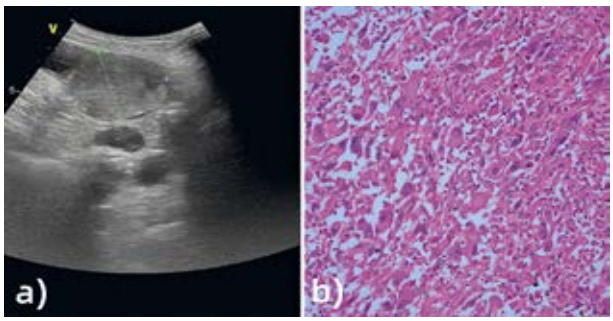

Fig 1. a) Renal ultrasonography image showing a slightly high echo mass which can be seen in the lower pole of the right kidney, with clear boundary and uneven internal echo. b) Histopathology showed the mass was mainly composed of spindle cells and pleomorphic tumor cells, with large cell atypia (hematoxylin and eosin stain × 200).

References

1. Mouallem NE, Smith SC, Paul AK. Sarcomatoid renal cell carcinoma: Biology and treatment advances. Urol Oncol 2018;36:265-271.
2. Blum KA, Gupta S, Tickoo SK, et al. Sarcomatoid renal cell carcinoma: biology, natural history and management. Nat Rev Urol 2020;17:659-678.

Ultrasound imaging for congenital bilateral absence of extensor pollicis brevis tendons

Wei-Ting Wu[1,2], Ke-Vin Chang[1,2,3], Levent Özçakar[4]

[1]Department of Physical Medicine and Rehabilitation, National Taiwan University Hospital, Bei-Hu Branch, Taipei, Taiwan, [2]Department of Physical Medicine and Rehabilitation, National Taiwan University College of Medicine, Taipei, Taiwan, [3]Center for Regional Anesthesia and Pain Medicine, Wang-Fang Hospital, Taipei Medical University, Taipei, Taiwan, [4]Department of Physical and Rehabilitation Medicine, Hacettepe University Medical School, Ankara, Turkey

Received 21.02.2022 Accepted 14.04.2022
Med Ultrason
2022, Vol. 24, No 2, 257-258, DOI: 10.11152/mu-3637,
Corresponding author: Ke-Vin Chang
Department of Physical Medicine and Rehabilitation, National Taiwan University Hospital Bei-Hu Branch, 87, Nei-Jiang Rd., Wan-Hwa District, Taipei 108, Taiwan
E-mail: kvchang011@gmail.com
Phone: +886223717101-5309

To the Editor,

A 17-year-old male was seen for inability to extend his 1st metacarpophalangeal joints bilaterally since he could remember (fig 1A, Video 1, on the journal site). He visited the orthopedic clinic where congenital absence of extensor pollicis brevis tendons was considered and he was referred for sonographic confirmation. The transducer was placed in the axial plane sequentially from the

distal radius, scaphoid, triquetrum and 1st meta-carpal base (fig 1B). At the level of right distal radius (fig 1C), only one tendon was seen inside the 1st extensor compartment. At the scaphoid level (fig 1D), the tendon was divided into multiple slips over the radial artery. At the triquetrum level (fig 1E), the separated slips converged and coursed radially to the triquetrum tubercle. More distally, the tendon was seen attached to the 1st metacarpal base and was verified to be the abductor pollicis longus tendon (fig 1F, Video 2, on the journal site). As ultrasound imaging also revealed similar findings on the left wrist, absence of bilateral extensor pollicis brevis tendons could promptly be validated.

Congenital absence of bilateral extensor pollicis brevis tendons is rare. The pertinent literature contains reports more regarding absent extensor pollicis longus [1], abductor pollicis longus, flexor pollicis longus and flexor pollicis brevis tendons and muscles [2,3]. The extensor pollicis brevis muscle originates from the radius and interosseous membrane and becomes a tendon inserting on the proximal phalanx. It is innervated by the posterior interosseous nerve [4], the integrity of which should be evaluated in patients with inability to extend the 1st metacarpophalangeal joint. Ultrasound imaging has readily been applied for the confirmation of congenital absence or variants of tendons in the wrist/hand [2,5]. This case highlights the usefulness of ultrasound examination for wrist/hand tendon abnormalities.

Acknowledgment: The study was made possible by Taiwan Society of Ultrasound in Medicine.

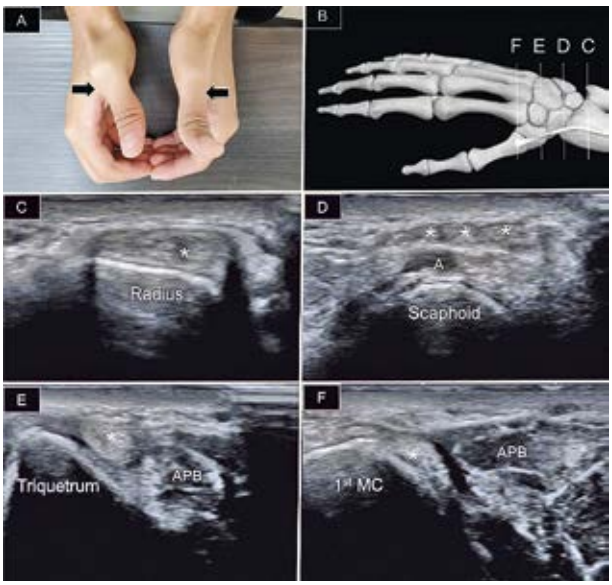

Fig 1. Arrows indicate the patient's inability to extend the proximal phalanges bilaterally (A). White dashed lines show the levels for the transducer placement in the axial view (B). Axial ultrasound imaging at the distal radius (C), scaphoid (D), triquetrum (E) and base of the 1st metacarpal (MC) (F) levels. Asterisks, abductor pollicis longus tendon; A, radial artery; APB, abductor pollicis brevis muscle.

References

1. Hong J, Kim DK, Kang SH, Seo KM. Anomalous course of the extensor pollicis longus with multiple absences of thumb muscles. Ann Rehabil Med 2013;37:151-155.
2. Kürklü M, Bïlgïç S, Kömürcü M, Özçakar L. Sonographic evidence for the absence of abductor pollicis longus, extensor pollicis longus, and brevis. Orthopedics 2010;33(4). doi:10.3928/01477447-20100225-29.
3. Tsuchida Y, Kasai S, Kojima T. Congenital absence of flexor pollicis longus and flexor pollicis brevis: A case report. Hand 1976;8:294-297.
4. Wu CH, Chang KV, Ozcakar L, et al. Sonographic tracking of the upper limb peripheral nerves: a pictorial essay and video demonstration. Am J Phys Med Rehabil 2015;94:740-747.
5. Chang KV, Wu WT, Wang RF, Özçakar L. Extensor digitorum brevis manus is uncommon but can easily be misinterpreted during wrist ultrasound examination. Med Ultrason 2020;22:118-119.

Clinical and imaging findings of invasive papillary carcinoma of the breast

Yong Jun Xing[1*], Jing Zhang[2*], Chen Deng Wang[1]

** the authors share the first authorship*

[1]Department of General Surgery, Lishui People's Hospital, Lishui, [2]Department of Ministry of Women's Health, Dongyang Maternal and Child Care Hospital, Dongyang, Zhejiang, P.R. China

To the Editor

A 70-year-old female noted a right breast mass gradually increasing in size for one year, up to the size of an adult's fist. Ultrasound (US) revealed a huge mass in the superolateral quadrant of the right breast with a clear boundary, cystic interior and thick internal fluid. No obvious blood flow signal was found on color Doppler flow imaging (fig 1a).

On chest MRI, a high-signal (T1W1) mass (11.8×8.0 cm) was noted in the right breast superolateral quadrant. The T2W lipid-suppression sequence was uneven and had a high signal. The lesion was capsulated. On diffusion weighted imaging, lesion stratification was noted. On enhancement, the lesion edge was prominent (fig 1b). Thus, the possibility of a benign lesion (fibroadenoma with bleeding), BI-RADS 4a, was considered.

The patient underwent a simple right mastectomy. Postoperative routine pathology revealed invasive papillary carcinoma (IPC) with hemorrhagic cystic changes. Immunohistochemistry results were as follows: CK5/6 (-), 34βE12 (-), p63 (-), calponin (-), SMA (-), ER(3+), PR(2+), CerbB-2 (2+) and Ki67 (+10%) (fig 1 c,d).

IPC of the breast is a very rare invasive cancer with a fibrous vascular axis papillary structure. It has a unique histopathological morphology, molecular typing, clinical features, treatment, and prognosis. Most patients can self-identify the mass, and the incidence of nipple overflow is high. Nipple retraction is common, usually on one side; however, it may occur bilaterally. IPC is more common in middle-aged and elderly women after menopause and is very rare in men. Ko et al [1] reported a 56-year-old female patient with IPC with hemorrhagic cysts after breast trauma.

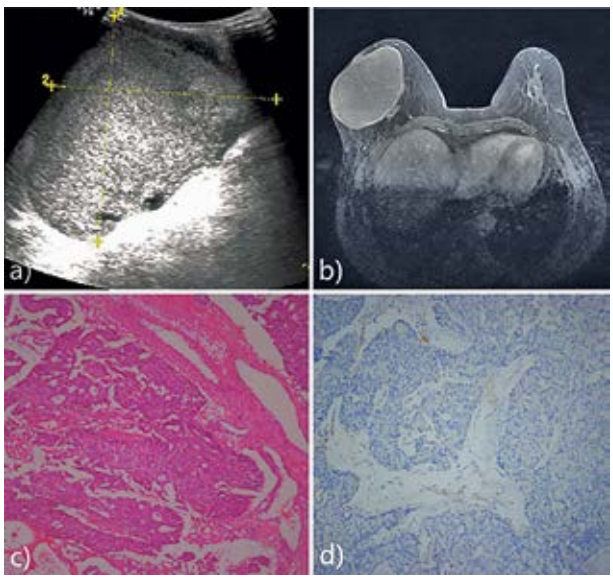

Fig 2. A huge mass in the right breast lateral quadrant, as noted on a) ultrasound, with clear boundary and cystic contents, and b) MRI; c) The tumor tissue showed a papillary structure, and the nipple surface was covered with multiple layers of tumor cells, showing invasive growth (hematoxylin and eosin stain, ×100); d) The tumor cells were negative for myoepithelial marker p63 (immunohistochemistry ×200).

Breast molybdenum targets are characterized by nodular density and can be multiple and often lobulated. Intrapapillary or cystic carcinoma is sometimes difficult to distinguish from papillary carcinoma [2].

IPC prognosis is relatively better than that of ordinary invasive ductal carcinoma, with few lymph node metas-

Received 07.02.2022 Accepted 07.04.2022
Med Ultrason
2022, Vol. 24, No 2, 259-260, DOI: 10.11152/mu-3612,
Corresponding author: Chen Deng Wang
Department of General Surgery,
Lishui People's Hospital
15 Dazhong street,
Liandu District, Lishui, Zhejiang,
323000, P. R. China
Phone/fax: +86 18957090353
+86 05782780253
E-mail: 18957090353@163.com

tases. Vani et al [3] reported a 45-year-old female with IPC with a good prognosis after a simple mastectomy; they stated that IPC was a rare and special subtype of invasive cancer with excellent prognosis and overtreatment should be avoided.

Our case supports a simple mastectomy as the first choice of treatment for IPC. Endocrine drugs can be administered according to the postoperative molecular classification. Radiotherapy, chemotherapy, and targeted drugs can be selected according to the clinical stage.

References

1. Ko KH, Kim EK, Park BW. Invasive papillary carcinoma of the breast presenting as post-traumatic recurrent hemorrhagic cysts. Yonsei Med J 2006;47:575-577.
2. Elverici E, Barça AN, Türksoy O, Araz L, Yüksel E. Bilateral invasive papillary carcinoma of the breast. Clin Imaging 2007;31:419-421.
3. Vani D, Geetanjali S, Punja GM, Bharathi M. A case of invasive papillary breast carcinoma: Fierce facade with favorable prognosis. J Cancer Res Ther 2015;11:1029.