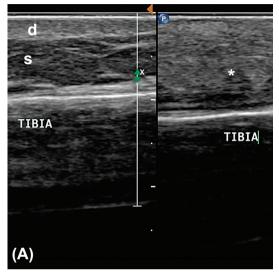
### Ultrasound Atlas of Rheumatic Diseases

## **Others**

**Other Diseases** 





### Other Diseases

#### **Panniculitis**

**Dorsal longitudinal scan (A)** and Power Doppler image of leg (B).

(A) Blurring of the border between dermis and subcutaneous tissue with increased thickness and echogenecity of subcutaneous tissue of anterior aspect of leg in right side image compared with the normal contralateral region.

(B) PDUS shows some Doppler signals (arrows) in thickend hyperechoic subcutaneous tissue.

PROX = proximal, DIS = distal.

Chen, Hsin-Hua

Grey scale and power Doppler US using a Philip iU22 with a volumetric probe (4D, 5-13MHz)



### Other Diseases Sjogren syndrome

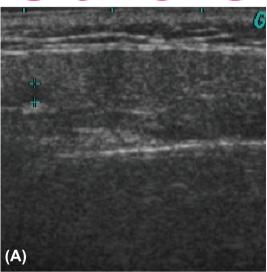
Parotid gland

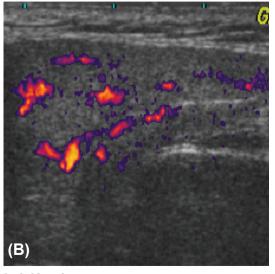
Longitudinal scan over right parotid, perpendicular to the Frankfurt horizontal (FH) plane (a horizontal plane represented in profile by a line between the lowest point on the margin of the orbit and the highest point on the margin of the auditory meatus.)

Gray-scale image reveals some hypoechoic areolae with blurred margins, having <2mm diameters within the parotid gland, suggesting salivary duct dilatation, consistent with PIH Gr 1. (Parenchymal inhomogenicity (PIH) is compared to that of thyroid gland. The US findings are scored according to the degree of PIH and structural changes seen. Four grades of PIH are distinguished: grade 0: normal homogenous parenchyma; grade 1: mild PIH seen as diffuse hypoechoic areolae less than 2mm with blurred borders; grade 2: moderate PIH with 2-6mm hypoechoic nodules; grade 3: severe PIH with large, more than 6mm circumscribed hypoechoic areas.)

#### Chen, Hsin-Hua

Gray scale US using a Philip iU22 with a hockey stick linear array transducer (7-12MHz)





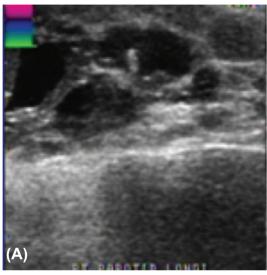
### Other Diseases

### Parotitis in Sjogren's syndrome

### Longitudinal scan of parotid gland

Parotitis in primary Sjogren's syndrome. (A) US scan of parotid gland showed heteroechogenecity, few bright streaks and some tiny cysts (the largest cyst was marked) consistent with glandular involvement in Sjogren's syndrome. (B) On power Doppler (PDI 3.2cm/ s), presence of parotid gland vascularity.

Lai, Kuo-Lung Gray scale and power Doppler US using a GE LOQIG500 (General Electrics) with a linear probe (11MHz)



### Other Diseases

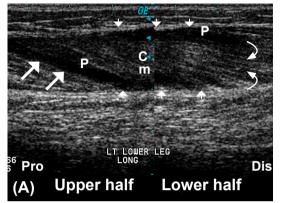
### Mikulicz's disease

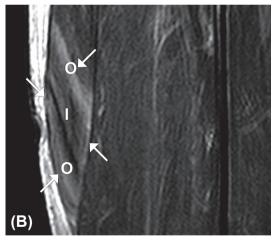
Longitudinal scan of parotid gland

Mikulicz's disease (IgG4related). (A) US scan of right parotid gland showed gland swelling with polycystic change (B) CT scan showed bil. parotid gland swelling with multiple cysts.



Lai, Kuo-Lung Gray scale US using a ALOKA SSD-4000SV with a linear probe (10MHz)





## **Other Diseases**

#### Intramuscular sarcoidosis

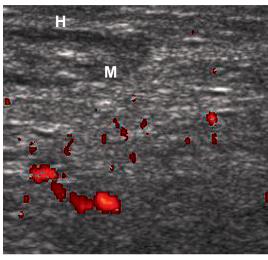
(A) Longitudinal scan through gastronemius muscle. (B) MRI of leg, T1-weighted image with intravenous administration of contrast agent (Gd-DTPA). coronal view

(A) Note a mass involving the whole layer of the medial gastrocnemius muscle (small arrows). The margin between the mass and adjacent medial gastrocnemius muscle is clear (large arrows). However, the margin is ill-defined at lower end (curved arrows). The mass reveals a characteristic appearance (arrows), i.e. hypoechoic at the peripheral

area (P) and hyperechoic at the central area (C) (perimysium). Pro = proximal; Dis = distal; MG = medial gastrocnemius muscle. (B) Note a well-defined striated mass (long arrows) with contrast enhanced zones at the outer part (O) and low signal intensity zones at the inner part (I) in the gastronemius muscle.

#### Chen, Hsin-Hua

Gray scale and Power Doppler US using a Logiq 500 (General Electrics Medical Systems, Milwaukee, WI) with a linear probe (6-13MHz)



Chen, Ying-Chou Power Doppler Ultrasonography using CGM OPUS 5000

### **Other Diseases Dermatomyositis**

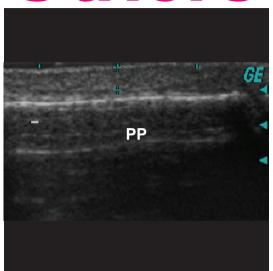
### Longitudinal scan of right leg

Marked edema of the hypodermis, Confluent vessel powder Doppler signals in muscle layers.

Abbreviations:

H = Hypodermis

M = Muscle layer

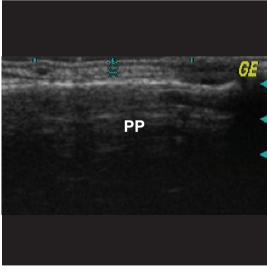


### Other Diseases

#### **Progressive systemic** sclerosis

#### Longitudinal scan of finger skin

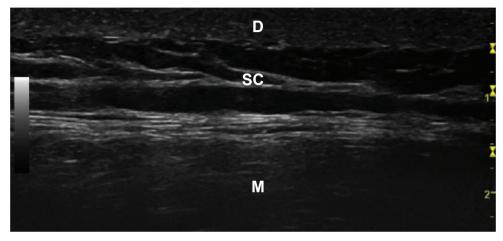
Sclerodactyly in progressive systemic sclerosis. (A) Longitudinal US scan at dorsal side of finger showed prominent thickening of skin. (B) Normal finger skin in healthy control. PP: proximal phalanx.



Lai, Kuo-Lung

Gray scale US using a GE LOQIG500 (General Electrics) with a linear probe (11MHz)

## **Other Diseases**

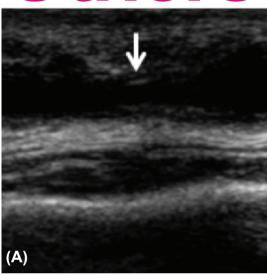


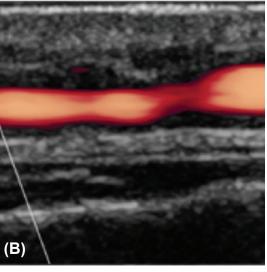
Lai, Kuo-Lung Gray scale US using a GE E9 (General Electrics) with a linear probe (15MHz)

#### Scleredema

### Transverse scan of skin of upper back

Scleredema in diabete mellitus. US scan at upper back showed prominent thickening of dermis. D: dermis, SC: subcutaneous tissue, M: muscle.



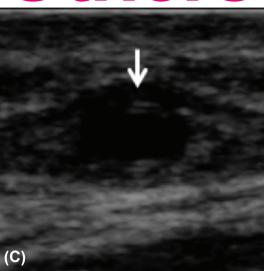


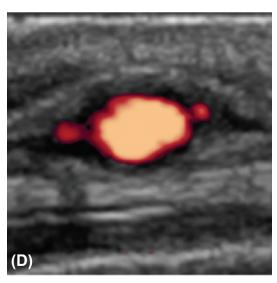
### Other Diseases

#### **Temporal arteritis** Longitudinal scan of temporal arterv

A 79-year-old man with temporal arteritis. (A) Longitudinal gray-scale and (B) power Doppler ultrasonography of the left temporal artery showed wall thickening (arrow in A) that resulted in stenosis. (C) Transverse gray-scale and (D) power Doppler ultrasonography showed intima edema that formed a hypoechoic area (arrow in C) in the periphery of the lumen (halo sign).

Lai Kuo-Lung, Chen Hsin-Hua, et al. Journal of Medical Ultrasound 2012; 20:72-78 Power Doppler US using a Philip iU 22 with a volumetric probe (5-13MHz)





### Other Diseases

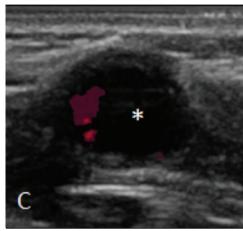
#### **Temporal arteritis** Transverse scan of temporal artery

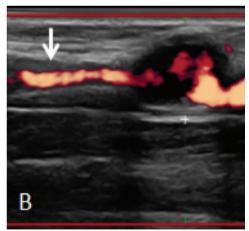
A 79-year-old man with temporal arteritis. (A) Longitudinal gray-scale and (B) power Doppler ultrasonography of the left temporal artery showed wall thickening (arrow in A) that resulted in stenosis. (C) Transverse gray-scale and (D) power Doppler ultrasonography showed intima edema that formed a hypoechoic area (arrow in C) in the periphery of the lumen (halo sign).

Lai Kuo-Lung, Chen Hsin-Hua, et al. Journal of Medical Ultrasound 2012; 20:72-78 Power Doppler US using a Philip iU 22 with a volumetric probe (5-13MHz)

## **Other Diseases**







#### Polyarteritis nodosa Radial artery aneurysms

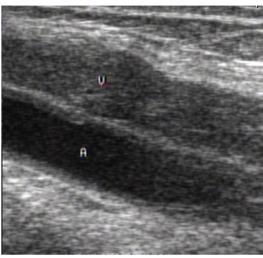
A 28-year-old woman with polyarteritis nodosa presented with pulsatile nodules on her left forearm. (A) Longitudinal scan of the left radial artery showed four aneurysms (\*). Aneurysm formation resulted from the dilatation of diseased arterial wall. (B) Power Doppler showed the thickened arterial wall (arrow). (C) Transverse scan of the aneurysm (\*)

showed thrombus with partial occlusion. The thrombus was heterogeneously hypoechoic and lacked Doppler signals.

Lai Kuo-Lung, Chen Hsin-Hua, et al. Journal of Medical Ultrasound 2012; 20:72-78 Power Doppler US using a Philip iU 22 with a volumetric probe (5-13MHz)

Elbow Shoulder

# **Others**



Lai, Kuo-Lung Gray scale US using a ALOKA SSD-4000SV with a linear probe (10MHz)

### Other Diseases

#### **Deep vein thrombosis** Longitudinal scan of popliteal vein

Deep vein thrombosis. Longitudinal US scan of left popliteal vein showed intraluminal heteroechoic thrombi (\*) with total occlusion. The vein could bot be compressed by probe. V: popliteal vein, A: popliteal artery.

Memo		