

Uso de la ecografía en glándulas salivales en Sd. de Sjögren

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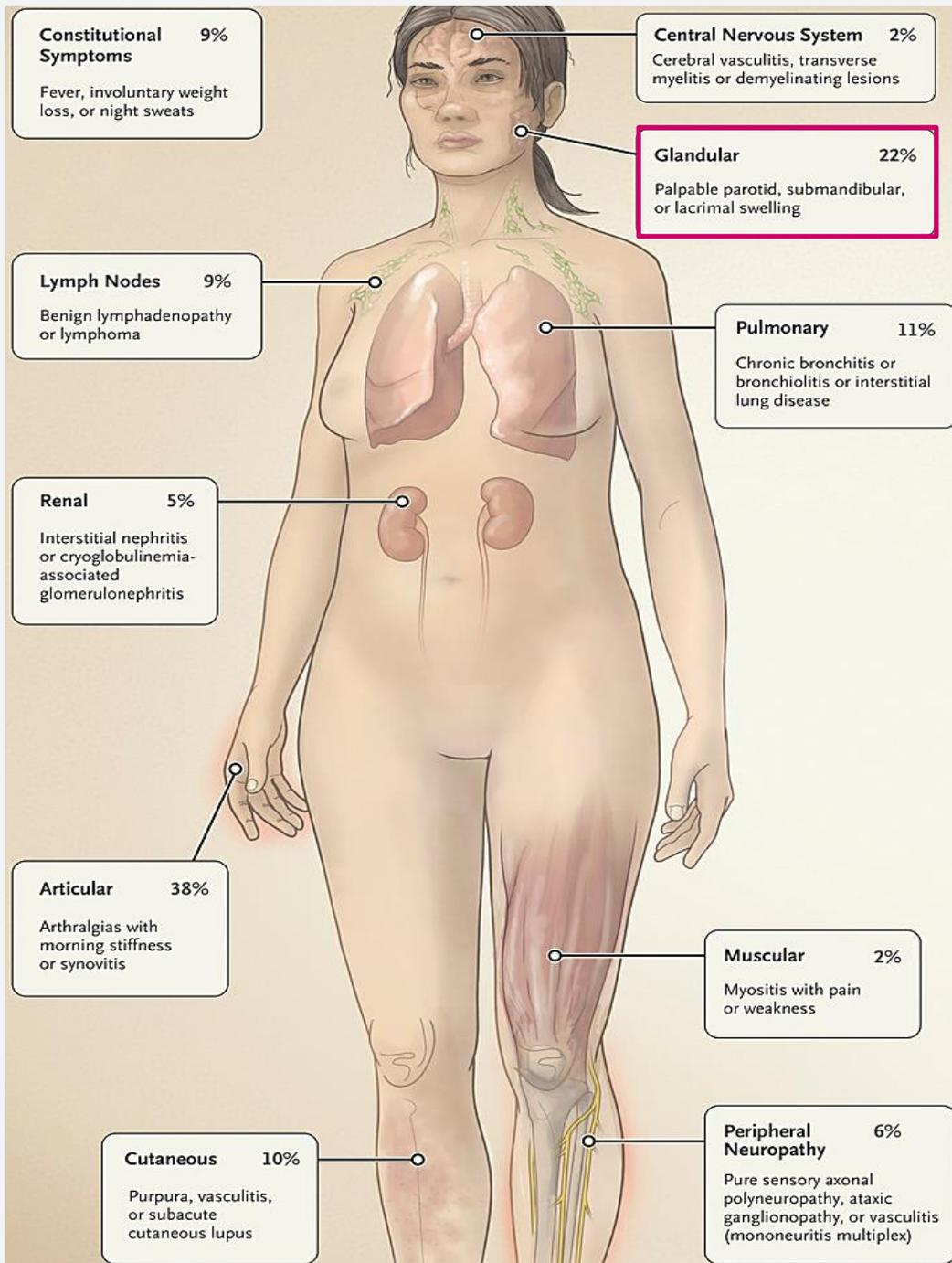
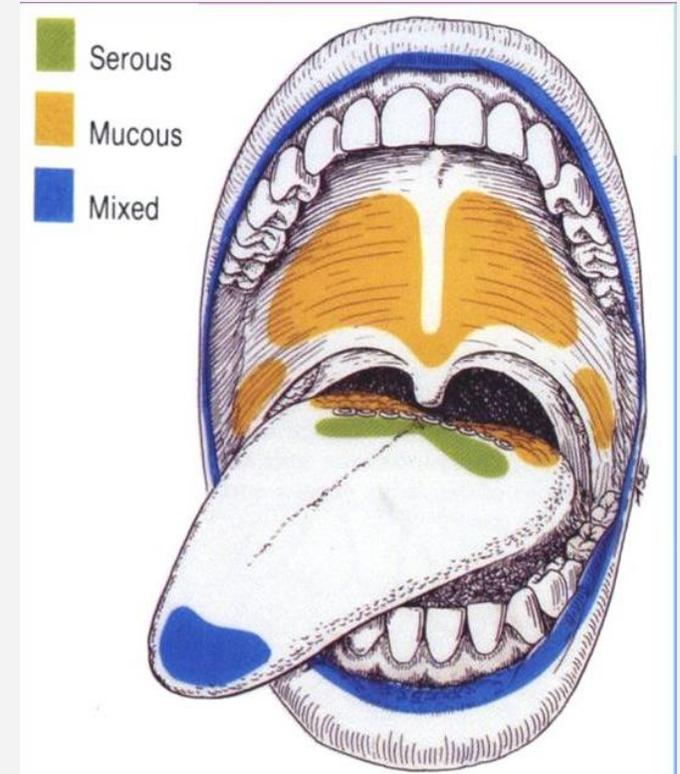
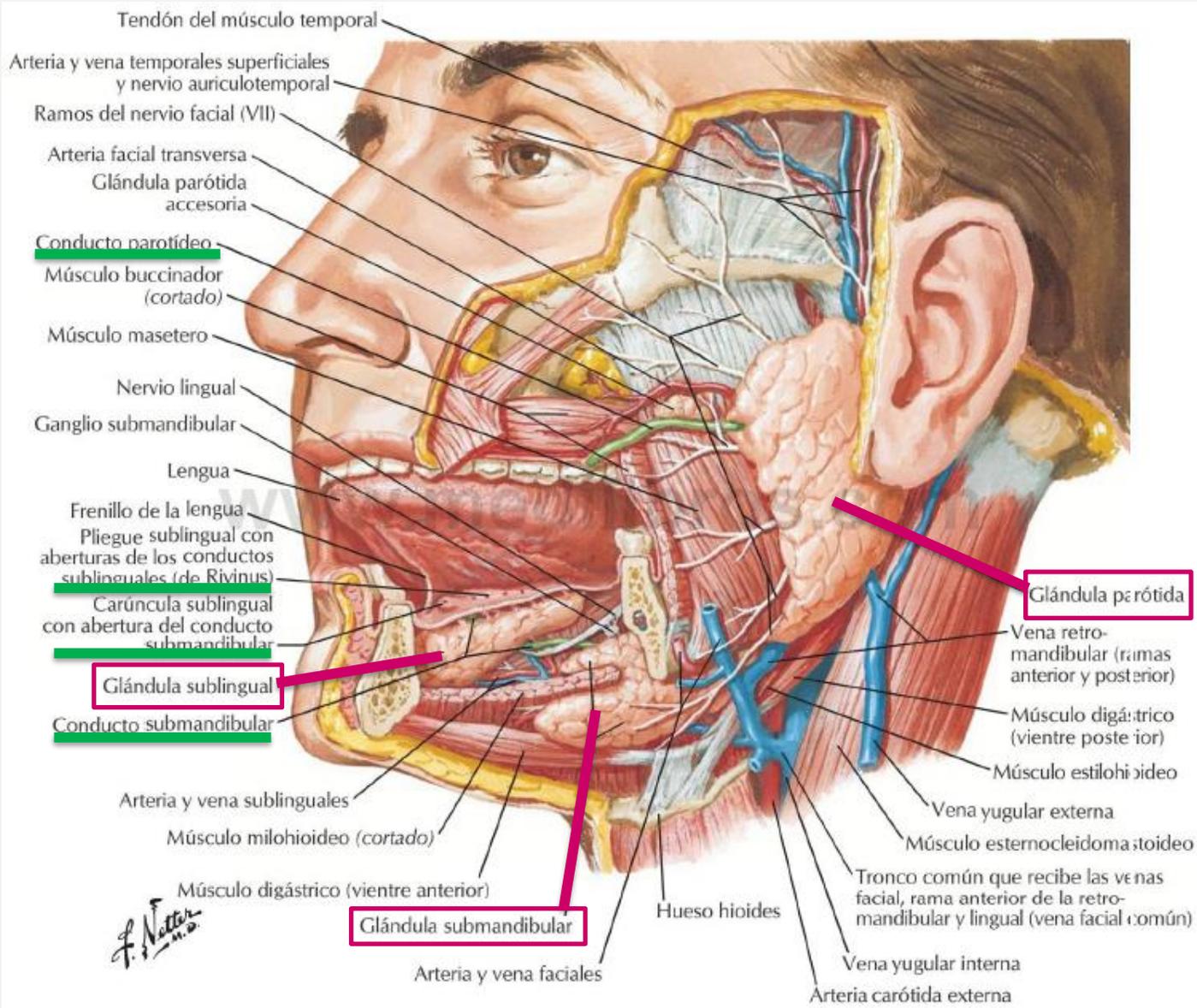


Figure 1 (facing page). Systemic Manifestations of Primary Sjögren's Syndrome.
 The percentages of patients with the various manifestations of primary Sjögren's syndrome were derived from reports in the Sjögren Big Data project,⁴ which includes information on more than 10,000 patients with primary Sjögren's syndrome from 22 countries. The patients were classified according to the domains on the Sjögren's Syndrome Disease Activity Index of the European League against Rheumatism.

Table 2 Comparison of items adopted in three classification criteria

Items	2002 AECG	2012 ACR	2016 ACR-EULAR
1. Ocular symptoms	Adopted	As inclusion criteria	As inclusion criteria
2. Oral symptoms	Adopted	As inclusion criteria	As inclusion criteria
3. Ocular signs	Schirmer's test ≤ 5 mm/5 min or VBS ≥ 4	OSS ≥ 3	OSS ≥ 5 or VBS ≥ 4 ; Schirmer's test ≤ 5 mm/5 min
4. Oral signs	uSFR ≤ 1.5 mL/15 min or Sialography or Scintigraphy	Not adopted	uSFR ≤ 0.1 mL/min
5. Autoantibodies	Anti-Ro (+) or Anti-La (+)	Anti-Ro (+) or anti-La (+) or ANA $\geq 1:320$ and RF (+)	Anti-Ro (+)
6. Minor salivary gland biopsy	Focus ≥ 1	Focus ≥ 1	Focus ≥ 1

VBS van Bijsterveld score, OSS ocular staining score, uSFR unstimulated salivary flow rate, ANA antinuclear antibody, RF rheumatoid factor



	Mayores	Menores
Imagen	<input checked="" type="checkbox"/>	No disponible
Biopsia	No recomendada	<input checked="" type="checkbox"/>

US-GS en SS: utilidad clínica y perspectivas futuras

De Vita, 1992:

- Tamaño glandular
- Ecogenicidad
- Homogeneidad.



53 pacientes (criterios Copenhague):

27 SSp
26 SSs

Parenquima inhomogéneo (áreas hipo/anecoicas):

0-3 Normal/ Leve/ Evidente/ Grosero.



90 controles:

26 Xerostomía y/o tumef recurrente/persistente GS
64 Sanos

Puntuación 0–6:

S 89% SSp y 54% SSs;
E 84,6% y 92,2% VS controles.

- ▶ SSp, SSs, SS juvenil, parotiditis recurrente.
- ▶ Hočevar, 2005: agrega borde posterior, calcificaciones, bandas hiperecoicas.
 - ▶ Inhomogeneidad del parénquima, bilateral (infiltración linfocítica probable).
- ▶ Diferentes sistemas de puntuación, poblaciones de estudio heterogéneas:
S 44-86%, E 84-99%. E Dg SS temprano: alta 88-98%, menor S 60-66%.

US-GS: contribución al Dg de SS

Hočevar: 0-3 homogeneidad. Puntaje total 0-48

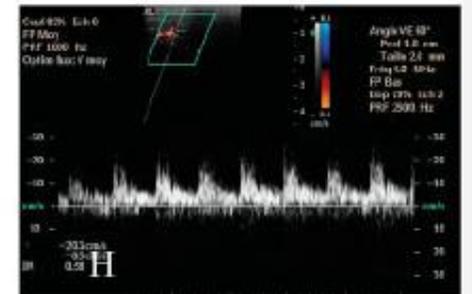
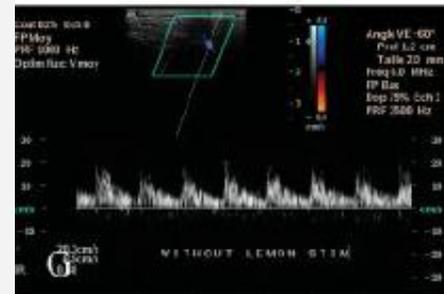
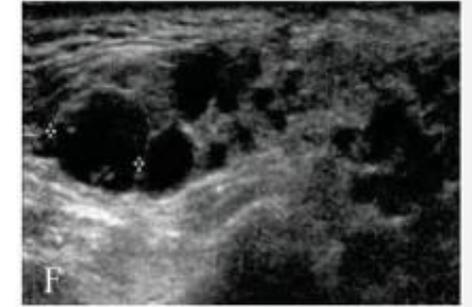
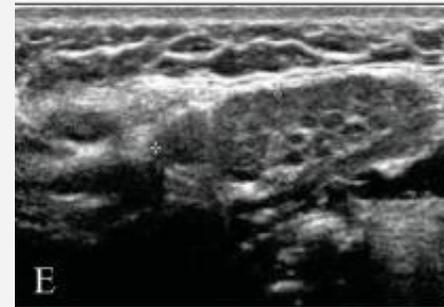
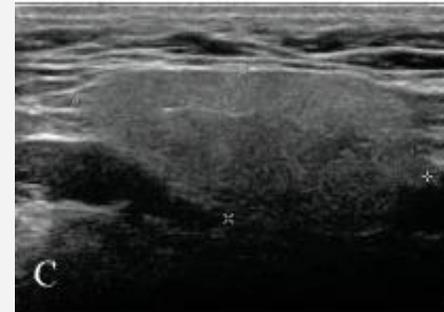
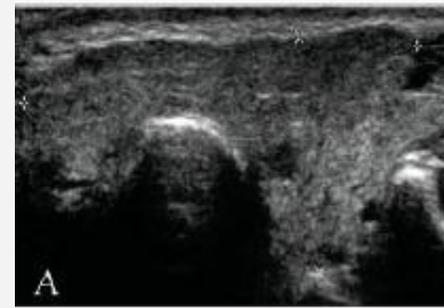
Correlación positiva con puntaje de foco (Bx parotídea)

▶ US AUC=0.85 Puntaje foco AUC=0.6

Gammaglobulinas, FR, ANA, anti-Ro/SSA y anti-La/SSB

▶ En grados intermedios o avanzados por US de enfermedad

RM mejor S sobre todo en etapa inicial



Video clip evaluador de un sistema de puntuación de US-GS en SS usando definiciones consensuadas: un ejercicio de confiabilidad del grupo de trabajo de US OMERACT

2016 subtarefas grupo OMERACT.

Validación uso de SGUS en lesiones de GS en SSp. Objetivos:

1. Consensuar definiciones de hallazgos US normal y protocolizar exploración.
2. Definir lesiones elementales US en SSp y un sistema de puntuación.
3. Evaluar la confiabilidad del sistema de puntuación en SSp y no SSp (Sicca) utilizando definiciones consensuadas y el protocolo, mediante una plataforma de video clip basada en la web.

Table 1 Section 1: agreed statements defining the appearance and standardised scanning procedure of the salivary glands examined by ultrasound

Section 1	Definitions	Agreement (%)	Delphi round
US appearance			
Normal PG parenchyma	Uniformly echoic texture (compared with adjacent muscles), with a clear demarcation between the gland and the overlying tissue. The echotexture of the PG is comparable to that of normal thyroid parenchyma.	81.1	1
Normal components of PG parenchyma	(a) The normal (non-dilated) excretory duct (Stensen's duct) is not visible, except sometimes in slim individuals.	81.1	1
	(b) The PG vessels are the external carotid artery and retromandibular vein, which are sometimes visible on B-mode images.	81.1	2
	(c) The external carotid artery and retromandibular vein divide the PG in a superficial and a deep lobe. These vessels should be used as landmarks for distinguishing between the two lobes.	95.8	1
	(d) The larger superficial lobe is clearly visible and may contain typical oval lymph nodes, one in the upper pole and/or one in the middle and/or one in the lower pole of the gland.	90.9	1
	(e) The smaller deep lobe may be difficult to assess, depending on gland echogenicity.	90.9	1
Normal SMG parenchyma	Uniformly echoic texture (compared with adjacent muscles), with a clear demarcation between the gland and the overlying tissue. SMG echotexture granularity is usually finer compared with the PG and normal thyroid parenchyma.	95.4	2
Normal components of SMG parenchyma	(a) The normal (non-dilated) excretory duct (Wharton's duct) is not visible, except sometimes in slim individuals.	86.3	1
	(b) The SMG vessels are the facial artery from the external carotid and the facial vein. The facial artery runs through the parenchyma and is consistently visible in B-mode provided the amount of pressure applied is not excessive.	86.9	2
	(c) The facial vein runs along the anterosuperior part of the SMG and may be visible.	77.2	1
	(d) Usually, under normal conditions, the SMG lymph nodes are located outside the anterior part of the gland but not within the gland.	86.9	2

US scanning procedure			
PG	(a) The PG can be assessed in a transverse plane perpendicular to the mandibular bone, using the mandibular ramus and temporomandibular joint condyle as landmarks.	95.4	2
	(b) In the longitudinal plane, the probe is positioned parallel to the mandibular ramus. The PG must be assessed in both the longitudinal and the transverse planes.	90.9	1
SMG	(a) The margins of the submandibular triangle are formed by the anterior and posterior bellies of the digastric muscle and the body of the mandible.	90.9	1
	(b) The SMG can be assessed in the longitudinal and transverse planes at the posterior part of the submandibular triangle.	87.5	2
	(c) The SMG should be assessed in the longitudinal and transverse planes at the posterior part of the submandibular triangle, using the posterior belly of digastric muscle as a landmark.	83.3	1
	(d) In some individuals, glandular processes may connect the SMG and PG.	83.3	2

PG, parotid gland; SMG, submandibular gland; US, ultrasound.

Escala semicuantitativa 4 grados, cualitativa 2 ítems (glándulas grasas y fibrosas):

(A) **Grado 0:** parénquima normal.

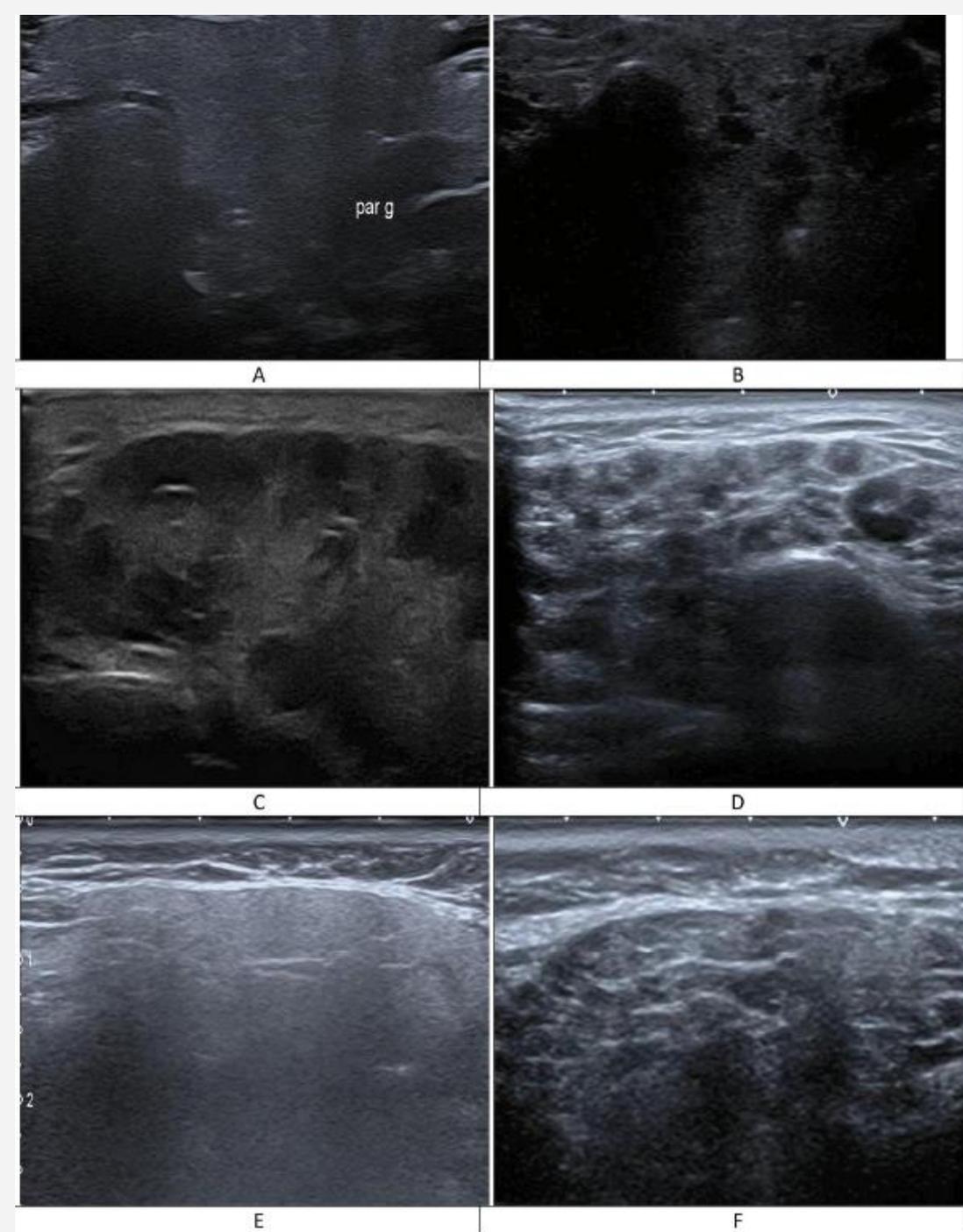
(B) **Grado 1:** cambio mínimo: inhomogeneidad leve sin áreas anecoicas/hipoecoicas.

(C) **Grado 2:** cambio moderado: inhomogeneidad moderada con áreas anecoicas/hipoecoicas focales

(D) **Grado 3:** cambio severo: inhomogeneidad difusa con áreas anecoicas/hipoecoicas que ocupan toda la glándula

(E) **Grado 1:** parótida inhomogénea difusa e hiperecoica en comparación con t. adyacente

(F) **Grado 3:** parótida con bandas hiperecoicas de tejido fibrótico, indistinguible de t. adyacente.



Video clip evaluador de un sistema de puntuación de US-GS en SS usando definiciones consensuadas: un ejercicio de confiabilidad del grupo de trabajo de US OMERACT

- ▶ Confiabilidad excelente intra-lector, buena inter-lector (inhomogeneidad).
- ▶ Expertos acordaron no evaluar g. sublinguales. Pequeñas, datos insuficientes sobre morfología, tamaño en US y RM.
- ▶ Infiltración grasa: en personas mayores sanas, pequeña minoría en SS.
- ▶ Fibrosis: común en SSp en etapa final y, a veces, temprana.
- ▶ Infiltración grasa y fibrosis: confiabilidad intra-lector excelente, inter-lector buena.
 - ▶ Puntuación US-GS cuando no se puede aplicar el semicuantitativo.
- ▶ Fiabilidad SMG < PG, por diferente ecoestructura. **Calificar al menos una PG y una SMG.**

Incorporación de US-GS en criterios ACR/EULAR para SSp

Criterios originales con Bx:
 AUC 0.965
 S 95.9%
 E 92.2%.

Criterios + US:
 AUC 0.966
 S 97.3%
 E 90.2%.

Table 2. Original and modified ACR/EULAR criteria incorporating salivary gland ultrasound*

Item	Weight, points
Original ACR/EULAR criteria	
Focal lymphocytic sialadenitis and FS ≥ 1	3
Anti-SSA positive	3
OSS ≥ 5 in at least 1 eye	1
Schirmer's test ≤ 5 mm/5 minutes in at least 1 eye	1
UWS flow rate ≤ 0.1 ml/minute	1
Modified ACR/EULAR criteria: addition of ultrasound	
Focal lymphocytic sialadenitis and FS ≥ 1	3
Anti-SSA positive	3
OSS ≥ 5 in at least 1 eye	1
Schirmer's test ≤ 5 mm/5 minute in at least 1 eye	1
UWS flow rate ≤ 0.1 ml/minute	1
Average SGUS score for hypoechogenic areas ≥ 1.5	1

* For both sets, patients with a score of ≥ 4 are classified as primary Sjögren's syndrome. ACR = American College of Rheumatology; EULAR = European League Against Rheumatism; FS = focus score (foci/4 mm²); OSS = ocular staining score; UWS = unstimulated whole saliva flow; SGUS = salivary gland ultrasonography.

Dg diferencial por US

Estudio comparó SSp, amiloidosis AL, sarcoidosis, sanos

- ▶ La mediana de puntuación de Hocevar
 - ▶ **> en SS que en resto de grupos**
 - ▶ Sarcoidosis y amiloidosis > en sanos

SS + MALT

- ▶ Casi el **doble puntuación** de US que SS sin linfoma

ER-IgG4

- ▶ Altas puntuaciones de Hocevar con SSp
 - ▶ **Principalmente en glándula submandibular**
 - ▶ Similares en parótida

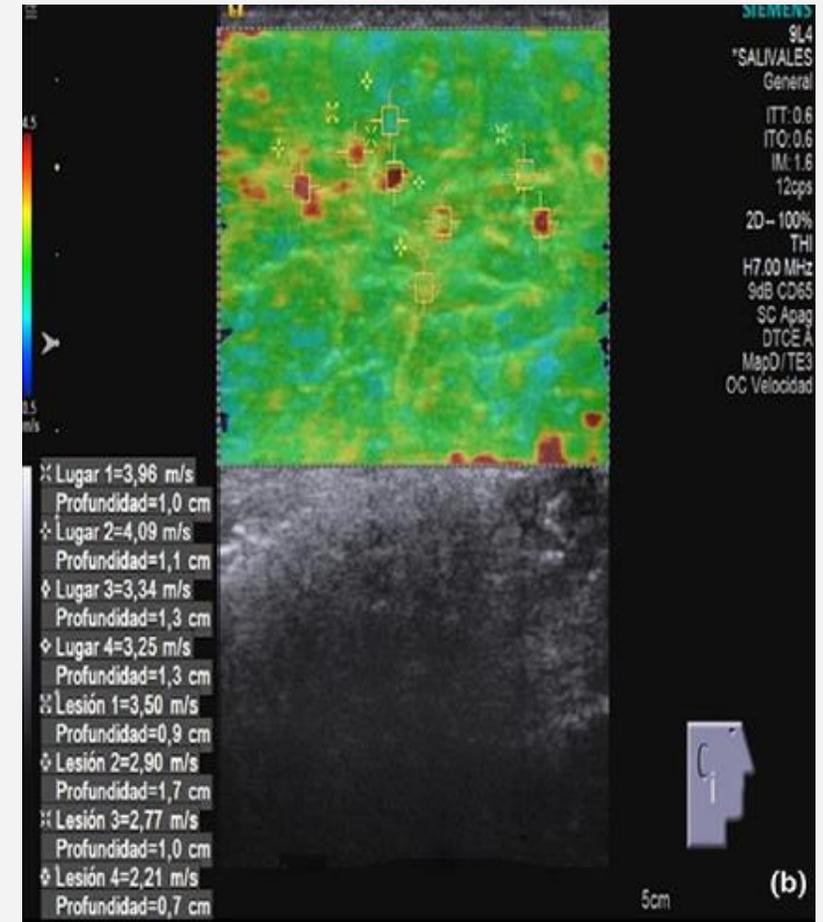
Elastografía (SWE)

Dureza tejido

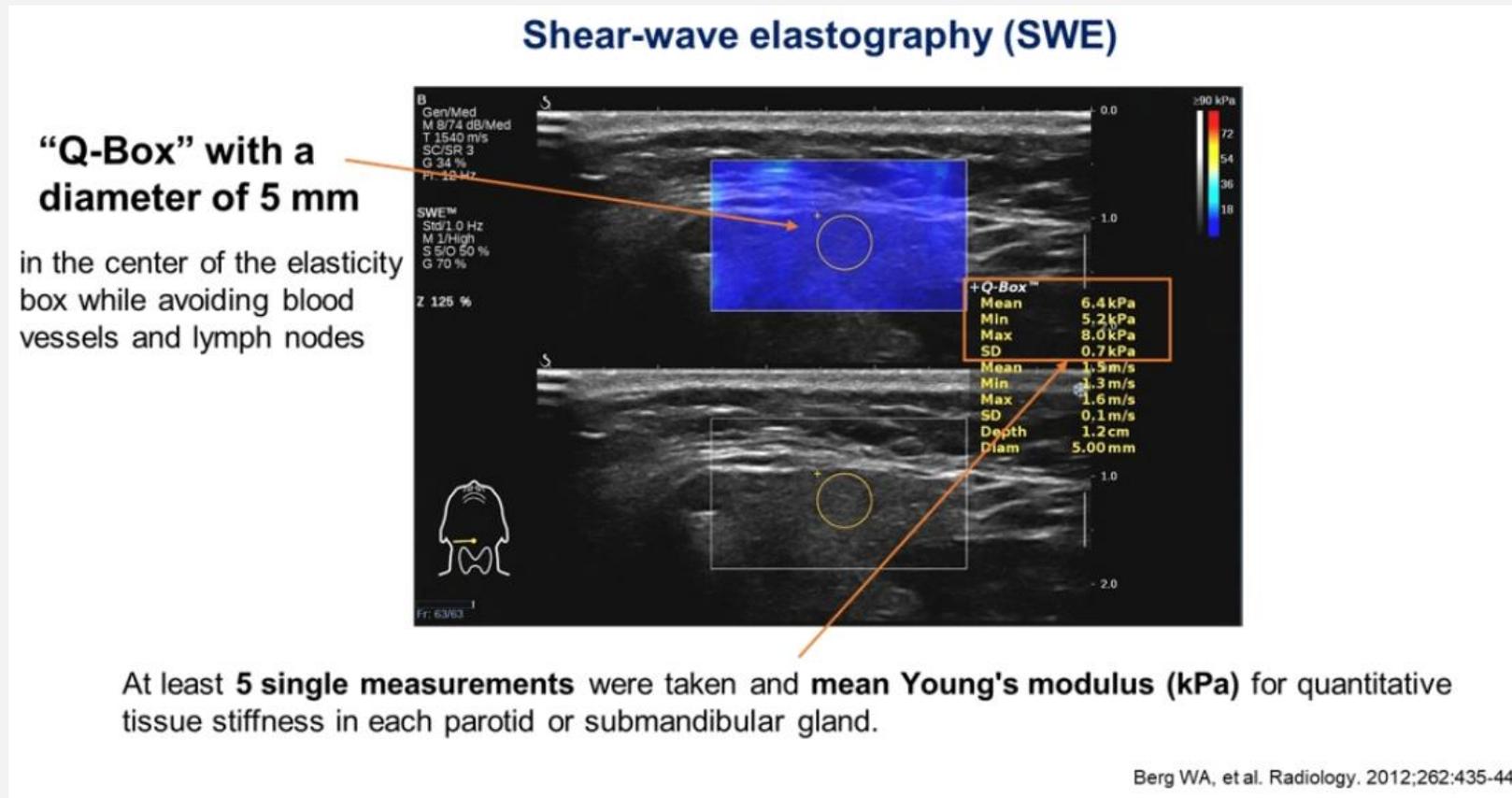
- ▶ Interacción de las características tejido y la compresión extrínseca (mecánica, vibratoria del US).
- ▶ Deformación y velocidad de respuesta se integra en imagen radiofrecuencia (código de colores).
- ▶ Expresado en kPa o m/seg

Estudio de 27 pacientes con SS

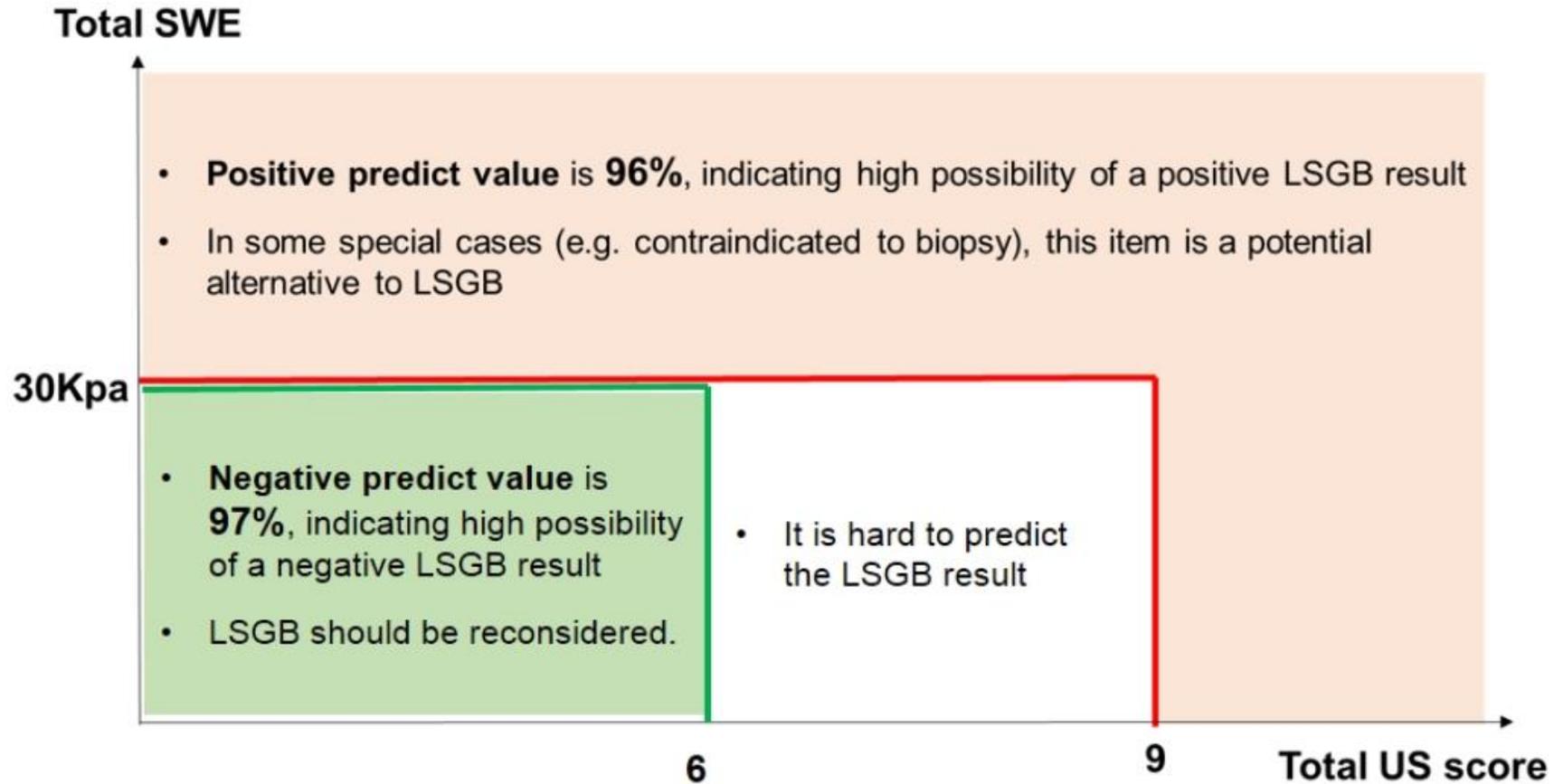
- ▶ Puntaje de elastografía
 - ▶ Puntaje US modo B ($T=0.53$, $p=0.0001$)
 - ▶ Flujo salival no estimulado ($T=-0.50$, $p=0.0001$)
 - ▶ Componente glandular del ESSDAI ($T=0.36$, $p=0.02$)



Modelo de decisión de Bx de glándula labial basado en US modo B con elastografía en sospecha de SS



B-mode US together with SWE improve the decision-making of LSGB



Conclusiones

- ▶ Accesible, rápido. S < E.
- ▶ Sustituye a sialografía y cintigrafía: Dg
- ▶ Podría sustituir Bx (discutido).
- ▶ Potencial para incluirlo en criterios, validación con controles.
- ▶ Valor pronóstico: más riesgo de manif extra glandulares y linfoma.



**El "tigrillo"
de Zaruma**

PIC: Cortesía MCYP



Declarado Patrimonio Inmaterial del Ecuador

¡Gracias!