ULTRASONOGRAPHY

ITS REVIVAL IN DENTISTRY

Language: English

Authors: Aniruddh Yashwant Vishnuprashad, Arti Agrawal, Prof. Jonathan Daniel Mariappan, Mahatma Gandhi Post Graduate Institute of Dental Sciences, Department of Oral Medicine and Radiology, Pondicherry, India

Date/Event/Venue:
5.12.2010
National BDS students seminar on Oral Medicine and Radiology
Chennai, Tamil Nadu, India

A process that uses the reflection of high-frequency (3 to 10 MHz) sound waves to make an image of structures deep within the body.

Fig. 1: Ultrasonogram

Tuberculous abscess

Ultrasound demonstrating intraglandular tuberculous abscess. There is a complex mass (callipers) in the submandibular gland with a central necrotic abscess cavity.
Salivary gland pathology

The arrowheads indicate the mass lesion with an echogenic signal and a clear margin in the left submandibular gland, diagnosed as benign submandibular related tumor.

Evaluation of distraction osteogenesis
Early and late complications of soft tissue healing, movements of the bone segment, as well as the osteogenesis are easily detectable using B-scan ultrasonography.

**Periodontal pocket depth estimation**

Ultrasonography probe provides a mapping system for noninvasively making and recording differential measurements of depth of any patient's periodontal ligaments relative to a fixed point as CEJ.

**Enamel crack**

Enamel cracks can be accurately identified by ultrasound dental crack detection system using novel transducer, coupling agent & customized electronic & digital signal processing.

**Cellulitis**

- In cellulitis, well defined hypoechoic septa between fat and connective tissue [characteristic cobblestone appearance]
- In abscess, anechoic to hyperechoic due to sediment, septa or gas.
**Head & neck cancer**

Sharp borders, Hyperechogenicity, & peripheral vascularity indicate signs of metastatic lymph nodes.

**Large TMJ effusion**

Head of the condyle and the articular eminence, is generally hypoechoic, the margin of the bone is hyperechoic. The joint capsule, retrodiscal tissue, lateral pterygoid and masseter muscles, are isoechoic and appear grey.

This Poster was submitted by Aniruddh Yashwant Vishnuprashad.

**Correspondence address:**
Aniruddh Yashwant Vishnuprashad  
Mahatma Gandhi Post Graduate Institute of Dental Sciences  
Puducherry(U.T)  
India
ULTRASONOGRAPHY - "ITS REVIVAL IN DENTISTRY"

A process that uses the reflection of high-frequency (3 to 10MHz) sound waves to make an image of structures deep within the body.

**TUBERCULOUS ABSCESS**
Ultrasound demonstrating intraglandular tuberculous abscess. There is a complex mass (collarette) in the submandibular gland with a central necrotic abscess cavity.

**SALIVARY GLAND PATHOLOGY**
The arrowheads indicate the mass lesion with an echogenic signal and a clear margin in the left submandibular gland, diagnosed as benign submandibular related tumor.

**EVALUATION OF DISTARCTION OSTEOGENESIS**
Early and late complications of soft tissue healing, movements of the bone segment, as well as the osteogenesis are easily detectable using B-scan ultrasonography.

**PERIODONTAL POCKET DEPTH ESTIMATION**
Ultrasound probe provides a mapping system for noninvasively making and recording differential measurements of depth of any patient's periodontal ligaments relative to a fixed point on CEJ.

**ENAMEL CRACK**
Enamel cracks can be accurately identified by ultrasound dental crack detection system using novel transducer, coupling agent & customised electronic & digital signal processing.

**CELLULITIS**
- In cellulitis, well defined hyperechocic sepsis between fat and connective tissue (mononuclear cobblestone appearance)
- In abscess, anechoic to hyperechocic due to sediment, sepsis or gas.

**HEAD & NECK CANCER**
Sharp borders, hypoechogenicity, & Peripheral Vascularity indicates signs of metastatic lymph nodes.

**LARGE TRJ EFFUSION**
Head of the condyle and the articular eminence is generally hyperechoic, the margin of the bone is hyperechoic.
The joint capsule, retrodiscal tissue, lateral pterygoid and masseter musculi are isoechoc, and appear grey.

**AUTHORS:**
V. AMRUDODH VASHWAM, ARTI AGRAWAL, C.R.D.
M.G.P.I. Puducherry

**GUIDE:**
Dr. M. JONATHAN DASWAL,
PROFESSOR & HEAD,
DEPT. OF ORAL MEDICINE & RADIOLOGY
M.G.P.I. Puducherry