PED-S01 Spine Ultrasound in Neonate

Meng-Ying Hsieh Division of Pediatric Neurology, Department of Pediatrics, Chang Gung Memorial Hospital, Taipei Branch

In newborns and infants, the spinal arches are predominantly cartilaginous which provide an acoustic window allowing passage of the ultrasound beam. The advantages of sonography in neonates compared to the MRI include wide and cheap availability, no need for sedation or general anesthesia, and lack of vulnerability to artefacts due to patient movement, cerebrospinal fluid pulsation, and vascular flow which can adversely affect MR image quality.

Sonography is a well-established method for investigating the spinal canal, cord, and meningeal coverings and for characterizing the spinal anomalies with high geometric resolution in the neonatal and infantile age groups. This introduction of spinal sonography will present the normal appearances, normal anatomical variants, and some common congenital and acquired spinal pathologies. To conclude, spinal ultrasound is a reliable and widely available screening tool for the examination of the neonatal spine.

PED-S02 Hip Ultrasound in Neonate

Yin-Chun Tien

Department of Orthopaedics, Kaohsiung Medical University Hospital, Kaohsiung Medical University College of Medicine

Hip joint disorder is often neglected due to the joint deeply embedded by thick muscle layers. Therefore, the sonography can provide a quick, cheap, and precise information for following diseases:

 Developmental Dysplasia of Hip: The diagnosis of dysplasia and dislocation of hip remains a central issue. Early diagnosis and early treatment is the only way to gain the best result, because when treatment is delayed for more than 3 months after birth, a complete cure can only be achieved in approximately two thirds of all cases. Ultrasonography is the current gold standard for imaging the hip in infants younger than 6 months. Ultrasonography allows changes in hip position to be observed with movement, and real-time ultrasonography permits multiplanar examinations that can clearly determine the position of the femoral head with respect to the acetabulum. However, there insufficient evidence give is to clear recommendations for practice. There is inconsistent evidence that universal ultrasound results in a significant increase in treatment compared to the use of targeted ultrasound or clinical examination alone. Septic arthritis: 2.

Ultrasonography has been used as a fast convenient and effective tool in the detection of hip joint effusion. And, ultrasonography was found with following advantages for the diagnosis of septic arthritis: 1. ultrasonography is very sensitive in detecting the joint effusion of septic arthritis; 2. ultrasonography can clearly define the pathological extent of septic arthritis and help clinicians to treat the concurrent osteomyelitis by appropriate surgical debridement; and ultrasonography can differentiate soft tissue abscess or tenosynovitis from septic arthritis and help clinicians obviate unnecessary needle joint aspiration.

PED-S03 Ultrasound Evaluation of Torticollis in Infant,

Chia-Wei Lin

Department of Physical Medicine and Rehabilitation, National Taiwan University Hospital

Wry neck is one of the common symptoms during infancy, presenting with unilateral head tilting, neck rotation limitation, and sometimes accompanied with a palpable neck mass. Parents are usually worried while being notified about the

Pediatrics

diagnosis, treatment and prognosis. Muscular origin torticollis is one of the etiologies of wry neck during infancy. To differentiate the etiologies of wry neck in children, comprehensive history taking, physical examination and imaging studies are necessary. Among the image modalities, ultrasound examination of neck is a good tool because its accessibility, no radiation exposure, and quickly for diagnosis and future follow-up. This speech would focus on (1) introduction of normal neck structures by ultrasound in infant, and (2) diagnosis of muscular torticollis by ultrasound in infant.

PED-S04

Thyroid Nodules in Pediatric Patients: Sonographic Characteristics, Molecular Landscape, and Risk of Malignancy

Yen-Hsiang Chang, MD Nuclear Medicine Department, Kaohsiung Chang Gung Memorial Hospital

Explore the world of thyroid nodules in children - a topic gaining a topic gaining attention due to better ultrasound accessibility and image quality. This talk covers current understanding of the ultrasound appearance of these nodules, the genetic factors at play, and the risk of them turning cancerous.

Modern ultrasound scans have become crucial for studying thyroid nodules in kids. We'll uncover the characteristics we see on these scans. Learning to tell benign from possibly cancerous nodules helps doctors make smart choices without unnecessary procedures. Furthermore, we will draw a comparative analysis between pediatric and adult cases.

Molecular testing aids in diagnosing thyroid nodules with inconclusive cytology. We will touch upon the pivotal genes implicated in these nodules and elucidate their distinctions from those prevalent in adults. We'll also discuss how this genetic info might help predict risks, guiding treatments and follow-ups.

One big focus is weighing the chances of these

nodules becoming cancerous. Although rare, understanding the risks based on clinical signs, sonographic features, and alternation of genes is essential. This knowledge can use to improve diagnosis, reduce unnecessary procedures, and give the personalized care to these young patients.

PED-S05

Neck Ultrasound and Intervention in Children

Chih-Ying Lee M.D., Wei-Che Lin Ph.D. Department of Diagnostic Radiology, Kaohsiung Chang Gung Memorial Hospital and Chang Gung University College of Medicine, Kaohsiung, Taiwan

Imaging of pediatric neck masses

- Congenital
 - Midline
 - ◆ Thyroglossal duct cyst
 - Dermoid and epidermoid cyst
 - ◆ Laryngocele
 - ♦ Thymic cyst
 - Lateral or posterior neck
 - ♦ Branchial cleft cyst
 - ♦ Lymphangioma
 - ◆ Hemangioma
 - ♦ Venous Malformation
- Infection
- Abscess
- Others and mimics
 - Lymphocele
 - Neurogenic tumor
- Lymph nodes
 - Pyogenic infection
 - Tuberculosis
 - Metastasis / Lymphoma

Intervention of pediatric neck masses

- Sclerotherapy
 - Ethanol Cystic thyroid goiter
 - Bleomycin Vascular tumor
- Radiofrequency Ablation

Thyroid goiter

PED-S06

Ultrasonic Diagnosis and Treatment of Nerves, Tendons and Ligaments of Foot, Ankle and Lower Extremity

Kuo-Feng Kao Kao Kuo Feng Orthopedic Clinic

Ultrasonic Diagnosis and Treatment of Nerves, Tendons and Ligaments of Foot, Ankle and Lower Extremity.

I am currently a doctor in a clinic. As a doctor in a clinic, I feel that using musculoskeletal

ultrasound to help clinical treatment of patients is more important than diagnosis only.

During my orthopedic residency training, I was introduced to musculoskeletal ultrasound. Since I have complete training in surgical anatomy of the foot, ankle, and lower extremity, as well as knowledge of lower extremity biomechanics, I always observe the whole body first during clinical visits. Then use ultrasound to check the lesion condition of the affected limb. Only by correct diagnosis can there be a way to solve the patient's problems.