

Fibrous Tumor of the Pleura) is a rare primary tumor of the pleura of mesenchymal origin. In most cases, it is a benign lesion. It is composed of spindle cells similar to fibroblasts and derives probably from mid-epithelial mesenchyme.

The aim of the study was to analyze clinical symptoms, incidence, possibility of suggesting the diagnosis on the basis of imaging tests, confirmation of the diagnosis in pathological tests with regard to studies of histochemistry examination.

**Material and methods.** The clinical and morphological material obtained from 14 patients from the Department of Thoracic Surgery of the Subcarpathian Chest Disease Center treated between year 2004 and 2010 was analysed. In the first stage, selected cases of patients with isolated fibrous tumors of the pleura were chosen from the archives and the analysis of their medical history was carried out. Basic information about age, gender, medical history, cigarette smoking, physical examination and imaging results, endoscopic and morphological were noted. The second parallel component of the study were pathomorphological examinations of the surgical material of the patients, including assessment of morphology and immunohistochemistry.

**Results.** Of the 14 patients examined fibrous tumor occurred in 8 men and 6 women. The age range of patients was 37-73 years with a peak attributable to 6th decade of life. In 8 patients it was detected incidentally during examinations. In 7 patients, there were no clinical signs of respiratory disease, and if present, then the most common complaint was shortness of breath. Regarding the symptoms not connected to the respiratory system, anemia occurred most frequently. Fibrous tumor of the pleura was often associated with visceral pleura rather than the chest wall pleura. The biggest change was about 20 cm in size.

**Conclusions.** Fibrous tumor of the pleura is a neoplasm often detected incidentally, often asymptomatic or poorly symptomatic. Computed tomography imaging allows to suggest the diagnosis of fibrous tumor of the pleura. The basis of histopathological diagnosis are immunohistochemical studies.

### MRI IN KNEE TRAUMA

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Magnetic resonance imaging (MRI) of the knee is a crucial component for evaluating symptomatic patients and is widely used for accurate depiction of internal derangement. MRI has superior soft-tissue detail with multiplanar imaging capability that provides accurate evaluation of intra- and extra-articular structures of the knee not demonstrated with other imaging modalities. The development and advancements in MRI and the introduction of high-resolution coils have provided a noninvasive, nonoperator dependent, cost effective means to diagnose knee pathology. MRI is well tolerated by patients, widely accepted by evaluating physicians, and assists in distinguishing pathologic knee conditions that may have similar clinical signs and symptoms (as meniscal tears, osteochondral lesions).

Learning objectives are:

1. To outline the main anatomic characteristics features of knee.
2. To present diagnostic value of MRI in injury of crucial ligaments, meniscal injuries and osteochondral lesions.
3. To outline pitfalls in interpretation of MRI in knee trauma.

An awareness of normal and abnormal appearances is important in evaluating patients. Identifying early traumatic injury is important for further clinical decision making.

### MRI IN DIAGNOSIS OF MYOCARDITIS

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Magnetic resonance imaging (MR) has become a part of routine diagnostic work-up in patients with acute myocarditis. Viral etiology is the most common cause, among them, parvovirus B19 and adenoviruses are being most frequently identified in endomyocardial biopsies. Most patients will recover without sequelae, but a subset of patients will progress to chronic inflammatory and dilated cardiomyopathy.

MRI has been proposed as a noninvasive, reproducible method to detect inflammatory changes within the myocardium and to monitor the myocarditis activity. The main pathohistologic characteristics of acute myocarditis, interstitial edema and damage of myocardial cells caused by inflammatory infiltrate, determine MRI image characteristics. Interstitial edema is best seen on T2 weighted MRI sequence due to a prolongation of the T2 relaxation time caused by increased water content. However, this phenomena is not present at the time of early onset of symptoms. Conversely, myocardial damage may persist after the edematous phase and is best visualized on T1 weighted sequences. Administration of Gd-DTPA can be helpful in identifying the exact region and extent of myocardial damage as well as to follow up the patients. It has been shown that the degree of relative myocardial enhancement correlated well with the clinical status and left ventricular function. Conversely, the contrast enhancement is nonspecific and regional differences of the wash-in and wash-out kinetics may play a role in the timing and extent of signal enhancement.

Modern technology, such as MRI, has improved the ability to diagnose specific viral pathogens in the myocardium. This technique is emerging as an important tool for the diagnosis and follow-up of patients with myocarditis, and for guidance of endomyocardial biopsy.

### ACQUIRED DEFORMITY OF FOOT. ARE HIGH HEELS A TERRIBLE EVIL?

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From an anatomical perspective, the foot is a complex group of bones and muscles. The foot is a marvellous structure when viewed from the perspective of biomechanical function. The foot must perform diverse functions at specific times during the gait cycle. From a practical standpoint, the foot must: 1) adapt to the ground surface and simultaneously facilitate the body's shockabsorbing mechanism and 2) function as a rigid lever to propel the body across the ground.

The normal (structurally undeformed) foot is adequately prepared to perform these functions.

Function of feet have changed during the evolution. From more than thousand years we use some kinds of shoes, so our feet have to adapt to different gait cycle.

Deformation of the foot, or a part of the foot, acquired through disease or injury can cause variety of foot problems: hallux valgus, hallux rigidus, pes cavus hammer toe, club foot, flat feet, Morton's neuroma, plantar faciitis ect.

There are a lot of factors of foot problems. One condition that alters the functional demands placed on lower limb muscle-tendon units is the use of high-heeled shoes, which force the foot into a plantarflexed position. Long-term HH use has been found to shorten medial gastrocnemius muscle fascicles and increase Achilles tendon stiffness, but the consequences of these changes for locomotor muscle-tendon function are unknown.

X-ray, USG,CT, MRI are the modality very often use by orthopaedists to diagnose the cause of feet problem, so radiologists should be familiar with this problem.

**BRACHIAL PLEXUS MR: BASIC ANATOMY AND PATHOLOGY**

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Brachial plexopathy is a neurologic disease, that causes pain or functional weakness (or both) of the ipsilateral upper extremity. It may result from medical conditions and from violent stretching, penetrating wounds, or direct trauma. Given the morbidity associated with brachial plexopathy, radiologists should be familiar with plexus anatomy, able to recognize traumatic and nontraumatic plexopathies. It's indispensable to decide about proper medical procedure.

Evaluating the brachial plexus may seem not be easy because of the complexity of the anatomy

and the relative infrequency of dedicated studies, typically in the form of MRI. However, familiarity with the plexus in the context of adjacent, easily identifiable structures and with the typical appearances of plexopathies will allow a more confident evaluation. It will easier to interpret the plexus on nondedicated studies such as MRI or CT of the cervical spine, which is routinely performed in the setting of nontraumatic upper extremity weakness and trauma.

MR allowed to visualised pre- and postganglion parts of plexus and avail the natural contrast between plexus structures ant fat tissue around.

MR is study of choice in evaluating anatomy and pathology brachial plexus (trauma, Pancoast tumour, Thoracic Outlet Syndrome (TOS), schwannoma, iatrogenic disorders ect).

**SYNOVIAL CHONDROMATOSIS – DIAGNOSTIC DIFFICULTIES**

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**Background.** Synovial chondromatosis is a rare, benign disorder characterised by neoplastic proliferation of numerous chondral nodules in synovium of joints, bursae or tendon sheaths. The disease is usually diagnosed in the third, fourth and fifth decades of life, twice more often in men. In most cases it affects one joint but may appear bilaterally (in up to 10% of patients). The most common localization is the knee joint.

Computed tomography (CT) imaging is the best method in detecting calcified intraarticular bodies. Magnetic resonance imaging (MRI) may also implicate presence of synovial chondromatosis — on T2-weighted images calcifications are visible as focal areas of signal void in hiperintense fluid with hypertrophic synovium, additionally this technique may show extraarticular extent of disease, if present. Ultrasound examination is an alternative method of imaging synovial chondromatosis.

**Case reports.** In this article we present two cases of synovial chondromatosis. The first patient was a 14 year old girl, with multiple cartilaginous loose bodies in the knee joint, detected in ultrasound and MRI examinations. The next patient was a 68 year old woman with calcification in the shoulder joint demonstrated in CT and MRI examinations.

**Conclusions.** Diagnostic imaging plays an essential role in the diagnosis of synovial chondromatosis, still the final diagnosis is set in histopathology examination.

**ACUTE POSTTRAUMATIC THORACIC AORTIC CHANGES IN COMPUTED TOMOGRAPHY IMAGING**

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Acute traumatic aortic injury (ATAI) is a serious clinical condition in patients after multiple trauma. It results from motor vehicle accidents, pedestrian-automobile collisions and less frequently falls from height. Majority of patients with ATAI are young men.

In this work we present examples of posttraumatic aortic changes, which were stated in CT polytrauma (trauma CT) followed by CT angiography examinations, performed between the year 2010 and 2012 in the CT and MRI Laboratory of Clinical Radiology and Diagnostic Imaging Department in Provincial Hospital No 2 in Rzeszów. The aim of this study is to present morphological variation of posttraumatic aortic injuries and potential CT imaging pitfalls. Widened mediastinal silhouette in CT scoutview (topogram) may suggest presence of posttraumatic changes of the thoracic aorta. In the trauma CT scan hemorrhage may be suggested by a blurred border between the aorta and periaortic adipose tissue, and/or increase of mediastinal adipose tissue density. Sudden change in the outline of aortic walls, extravasation of blood/contrast medium beyond the vessel, and/or separation (tear) of the tunica intima are the probable changes in the CT scan examination after administration of contrast medium. When assessing CT