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Fayazzadeh E*

Department of Diagnostic Radiology, Cleveland Clinic, USA

*Corresponding author: Ehsan Fayazzadeh, Department of Diagnostic Radiology, Cleveland Clinic, OH, USA, Tel: 216-282-6522; E-mail: fayazze@ccf.org

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Editor's Note

OMICS Journal of Radiology is committed to publishing cutting-edge research in radiology. The current issue of OMICS Journal of Radiology highlights some unique case reports and their treatment strategies. Tan et al. [1] employed the diffusion and diffusion coefficient values for determining the degree of tumor differentiation in the glial tumors. Pichon et al. [2] present an extremely rare case of glioblastoma of the conus of the spinal cord, which later metastasized to the brain. Mazal and West [3] present report the successful employment of Percutaneous Irreversible Electroporation (IRE) in the treatment of Klatskin Tumor in a 71-year old patient. Almohawes et al. [4] reported a rare case of cystic lymphangioma occurring in the breast. Nouh et al. [5] studied the biometric and morphometric measurements of the normal Acromioclavicular (AC) joint on Multi-Detector Computed Tomography (MDCT). Creagh et al. [6] authored a review on the use of Magnetic Resonance Imaging (MRI) in the diagnosis of carotid plaques in cardiovascular diseases such as stroke.

Diffusion-Weighted Imaging (DWI) is one of the latest imaging techniques; it is based on measuring the Brownian motion of water molecules inside a voxel of tissue. Tan et al. [1], investigated the diffusion and diffusion coefficient values for determining the degree of tumor differentiation in the glial tumors. Twenty patients were selected, of whom: 7 had Glioblastoma Multiforme (GBM), 4 had Anaplastic Astrocytoma (AA), 4 had diffuse astrocytoma, 3 had ependymoma, and 2 had low-grade astrocytoma. The mean apparent diffusion coefficient (ADC) values and the mean diffusion value were estimated for all tumor types. The GBM ($2.91 \times 10^{-3} \text{ mm}^2/\text{s}$), diffuse astrocytoma ($3.13 \times 10^{-3} \text{ mm}^2/\text{s}$), and low-grade astrocytoma ($2.41 \times 10^{-3} \text{ mm}^2/\text{s}$) exhibited mean ADC values higher than the normal brain parenchyma ($0.85 \times 10^{-3} \text{ mm}^2/\text{s}$) pointing at increased movement of water molecules; this hints towards a loosening or distortion of the tissue. Restricted diffusion was observed in ependymoma ($0.70 \times 10^{-3} \text{ mm}^2/\text{s}$) and AA ($0.69 \times 10^{-3} \text{ mm}^2/\text{s}$). A statistically significant difference was observed between the GBM and AA ($p=0.001$), but diffuse astrocytoma, ependymoma, and low degree astrocytoma could not be differentiated in spite of the marked differences in their ADC values.

Glioblastoma or grade IV astrocytoma is an extremely aggressive malignant tumor of the central nervous system. The incidence of Glioblastoma is higher in the brain as compared to the spinal cord. The prognosis for Glioblastoma remains grave. Glioblastoma originating from a previously irradiated field has been rarely reported in literature. Pichon et al. [2] present an extremely rare case of glioblastoma of the conus of the spinal cord, which later metastasized to the brain, in a 45-year-old man; 9 years after the patient had successfully undergone chemo-cum-radiation therapy for Hodgkin's lymphoma. None of the treatments including radiotherapy could prevent the progression of glioblastoma, and the patient died 22 months after diagnosis.

Cholangiocarcinoma or bile duct cancer is the second most frequently encountered primary hepatic malignancy. Klatskin Tumor or unresectable hilar cholangiocarcinoma is a rare malignancy occurring at the junction of the left and right bile ducts; it has a poor prognosis and very few treatment options. Percutaneous Irreversible Electroporation (IRE) is a technique for ablation of soft tissues; it can be used for treatment of non-resectable carcinomas. The main advantage of IRE lies in the non-thermal technology, and its preservation of the vital structures of the body, making it an attractive option for treating hilar tumors. Mazal and West [3] present report the successful employment of IRE in the treatment of Klatskin Tumor in a 71-year old patient.

Cystic lymphangiomas or cystic hygromas are benign lesions of the lymphatic system; these are vascular malformations as opposed to a true neoplasm, these lesions result from the failure of the lymphatic system to join the venous system. Etiological factors leading to such an outcome include: blockage of the lymphatic channels, fragile lymphatic walls, or proliferation of the lymphatic vessels. Cystic lymphangiomas are predominantly located in the neck or axilla, but are rarely observed in the breast. Almohawes et al. [4] reported a rare case of cystic lymphangioma occurring in the breast; the clinical features of the cystic lymphangioma were confirmed by histopathological analysis. Investigations revealed enlarged right breast with multiple high-density masses, well-defined anechoic cysts with septa.

Variations in the Acromioclavicular (AC) joints are commonly observed in trauma. Multi-Detector Computed Tomography (MDCT) uses a two-dimensional detector array to acquire multiple slices simultaneously, thereby greatly increasing the speed of CT image acquisition. MDCT is useful in poly-trauma, especially skeletal trauma. Therefore, information regarding the AC joint measurements, and their morphologic variations on MDCT would help identify patients with occult AC instability. Nouh et al. [5] studied the biometric and morphometric measurements of the normal AC joint on MDCT. The study consisted of 33 volunteers and 17 patients with radiographic evidences of AC separations. The authors observed that the anterior and posterior axial AC joint distances were statistically significant measuring $0.88 \pm 0.3 \text{ cm}$ and $0.49 \pm 0.39 \text{ cm}$ in the AC separation group, as compared to volunteers with measurements of $0.59 \pm 0.27 \text{ cm}$ and $0.26 \pm 0.11 \text{ cm}$.

Stenosis of the carotid artery accounts for roughly 10% of the ischemic strokes. Earlier diagnosis of cerebrovascular atherosclerosis would lead to improved quality of life and reduction in health care costs. Imaging techniques such as Magnetic Resonance Imaging (MRI) play a crucial role in evaluation of acute stroke, thereby improving patient outcomes. Creagh et al. [6] have authored a review on the use of MRI in the diagnosis of carotid plaques in cardiovascular diseases such as stroke.

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