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Review Article **Published Date:-2024-08-08 17:26:12**

Evaluating the Pros and Cons of Evening and Weekend Outpatient Medical Imaging: Implications for Patients and Radiology Professionals

Evening and weekend imaging services at outpatient radiology centers offer extended access to diagnostic imaging, potentially increasing patient satisfaction and accessibility, especially for underserved populations. This review explores the benefits and challenges associated with these after-hours operations, focusing on health equity, patient satisfaction, economic considerations, energy and cost savings, and the impact on healthcare professionals. Findings indicate that while after-hours operations can enhance patient satisfaction and access, they also pose challenges such as increased operational costs and staff fatigue. Strategies for improvement include optimizing shift schedules, leveraging technology for better scheduling and communication, and enhancing patient-centered care. Collaborative efforts among imaging centers can further improve service delivery and efficiency.

Opinion **Published Date:-2024-07-15 15:00:00**

Post-catheterization Common Femoral Artery Pseudoaneurysm in a Patient with a Mechanical Mitral Valve Requiring Anticoagulation: A Case Report

Iatrogenic femoral pseudoaneurysms are a rare complication of transfemoral vascular access. We present a case of a 65-year-old woman with a mechanical mitral valve requiring warfarin, who developed a femoral pseudoaneurysm four days after cardiac catheterization with femoral access. The patient developed a 17 x 10 x 17 cm rectus sheath hematoma and was treated with ultrasound-guided thrombin injection. Anticoagulation was held for three days while the patient was monitored for further bleeding and later restarted based on shared decision-making, given the risk of valve thrombosis. There are few guidelines regarding the re-initiation of anticoagulation in high-risk bleeding patients with mechanical mitral valves. Non-invasive coronary computed tomography angiography should be considered in patients on anticoagulation who require non-emergent cardiac ischemic evaluation.

Opinion **Published Date:-2024-07-15 12:52:05**

From Ashes to Life - The Indestructible D. radiodurans

Deinococcus radiodurans (D. radiodurans) was accidentally discovered in 1956 when cans of ground meat were exposed to massive doses of ionizing gamma radiation, intended to kill dangerous bacteria. The bacterium can survive doses of radiation, even up to 1,000 times that which is deadly to humans. Among biologists and biophysicists, D. radiodurans is often humorously called “Conan the Bacterium.” This extreme radioresistance of the bacterium has been attributed to its ability to protect the proteome from ROS, which originates from water radiolysis, and also to carry out the effective repair of a large amount of DNA damage.

Retrospective Study **Published Date:-2024-07-09 12:37:03**

Radiomics by Quantitative Diffusion-weighted MRI for Predicting Response in Patients with Extremity Soft-tissue Undifferentiated Pleomorphic Sarcoma

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Purpose: This study aimed to determine the relevance of first- and high-order radiomic features derived from Diffusion-Weighted Imaging (DWI) and Apparent Diffusion Coefficient (ADC) maps for predicting treatment response in patients with Undifferentiated Pleomorphic Sarcoma (UPS).
Methods: This retrospective study included 33 extremity UPS patients with pre-surgical DWI/ADC and surgical resection. Manual volumetric tumor segmentation was performed on DWI/ADC maps acquired at Baseline (BL), Post-Chemotherapy (PC), and Post-Radiation Therapy (PRT). The percentage of pathology-assessed treatment effect (PATE) in surgical specimens categorized patients into responders (R; PATE ? 90%; 16 patients), partial-responders (PR; 89% - 31% PATE; 10 patients), and non-responders (NR; PATE ? 30%; 7 patients). 107 radiomic features were extracted from BL, PC, and PRT ADC maps. Statistical analyses compared R vs. PR/NR.
Results: Pseudo-progression at PC and universal stability at PRT were observed in R and PR/NR based on RECIST, WHO, and volumetric assessments. At PRT, responders displayed a 35% increase in ADC mean ($p = 0.0034$), a 136% decrease in skewness ($p = 0.0001$), and a 363% increase in the 90th percentile proportion ($p = 0.0009$). Comparing R vs. PR/NR at BL, statistically significant differences were observed in glrlm_highgraylevelrunemphasis ($p = 0.0081$), glrlm_shortrunhighgraylevelemphasis ($p = 0.0138$), gldm_highgraylevelemphasis ($p = 0.0138$), glcm_sumaverage ($p = 0.0164$), glcm_jointaverage ($p = 0.0164$), and glcm_autocorrelation ($p = 0.0193$). At PC, firstorder_meanabsolutedeviation ($p = 0.0078$), firstorder_interquartilerange ($p = 0.0109$), firstorder_variance ($p = 0.0109$), and firstorder_robustmeanabsolutedeviation ($p = 0.0151$) provided statistically significant differences.
Conclusion: Observing a high post-therapeutic ADC mean, low skewness, and high 90th percentile proportion with respect to baseline is predictive of successfully treated UPS patients presenting > 90% PATE. Highly significant higher-order radiomic results include glrlm-highgraylevelrunemphasis (BL) and first-order-mean absolute deviation (PC).