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ПРОГРАМА и АБСТРАКТИ
FINAL PROGRAMME & ABSTRACTS

transesophageal echocardiography that is limited by relatively narrow field of view and it is an invasive technique. Cardiac CT for evaluations of tumors has limitations: significant radiation dose (8–14 mSv), and lower temporal resolution compared with echocardiography and cardiac MRI(CMR). Neither echocardiography nor MDCT has as good soft-tissue contrast resolution as CMR. Nowadays most of the consensual statement include cardiac MRIs as a primary imaging technique in assessment of cardiac tumors. CMR is noninvasive technique without radiations, offers multiplanar imaging and offers wide range of field of view. CMR allow accurate detection of space occupying lesion, localization, involvement and evaluation of the functional impact of the lesion and allow tissue characterization. [Finn JP at al. Radiology 2006] Disadvantages are ECG gating especially in arrhythmia that may lead to artifacts and unrecognizing calcium.

Material and methods: We present 3 cases with echocardiographycally suspected tumors. One with suspicious for small lesion on mitral valve that underwent directly on CMR, second one with suspicion of left atrial mass dd. thrombus vs tumor underwent on cardiac CT and MRI and the third one with suspicious on CT suspected myocardial tumor from another institution that underwent cardiac MRI. The presented cases was performed on MR 1,5 T Siemens Avanto at our institution with ECG gating with protocol for morphological and functional evaluation and after administration of contrast medium and in the second case cardiac CT with prospective gating.

Results: First case has typical characteristics for fibroelastoma, second appears to be atrial mixoma that was postoperatively histopathology proved and the third one appears to be previously unrecognized congenital concentric hypertrophic cardiomyopathy.

Conclusion: Advantages of CMR in evaluation of cardiac tumors are multiplanar assessment, tissue characterization, functional impact of a cardiac and juxtacardiac structures and differentiation between of tumor and tumor like lesions and between benign and malignant.

Role of DWI/ADC in evaluation of brain tumor and monitoring treatment response

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Introduction: DWI consists of a DW image-diffusion trace and ADC map. DW image is a T2-weighted echo planar background image attenuated by the rate of apparent diffusion and with qualitative and quantitative assessment of the ADC map provide distinction of cytotoxic and vasogenic edema. DWI/ADC is used to assess brain tumors, tumor grading by providing information about tumor cellularity- prediction of tu grade. In high grade tumors DWI/ADC evaluate diffuse unenchancing spread and terapeutic response. ADC value of high-grade gliomas has been shown to be lower than that of low-grade gliomas. In extra axial meningioma low ADC in atypical vs typical subtypes. Primary neoplasms- peritumoral edema/infiltration = low ADC vs secondary lesions. Lymphoma – high DWI/ low ADC due to its cellularity. DWI/ADC of therapeutic response provide information about post oper margin of surgical resection (ischemia, pyogenic infection-reduction of ADC). Useful in following treatment response and recurrence because cytotoxic chemoradiation reduce cellularity – increase ADC. Radiation necrosis usually showed heterogeneity on DWI images and often included spotty, marked hypointensity (Chiaki Asaoa, et al.AJNR2005). DWI useful in differentiating recurrent neoplasm from radiation necrosis.

Material and method: We evaluate 33 cases with brain tumor. 19 of them after operative and/or chemoradiation therapy. All of them underwent on brain MRI enhanced with DWI/ADC, B-value 0 and 1000s/mm2 on 1,5T SIMENS Avanto.

Results: From intraaxial tumor: 4 cases of glioma gr1; 5 gr2; 3 gr3 and 9 gr4; extraaxial 7 from witch 2 atypical and 5 secondary lesions. Follow up on operated gr2 and follow up on oper. and chemoradiated gr3 and 4 with detection of postradiation necrosis, residual tumor and recidiv however transformation in higher grade.

Conclusion: Information about tumor type, malignancy grade, and the presence of necrosis is useful to determine the most suitable and effective treatment procedures. Serially obtained diffusion data is useful to document and even predict cellular response to drug or radiation therapy. Today DWI/ADC is necessary tool in CNS examination. DWI practical, useful, requires less imaging time vs other advance techniques but alone insufficient.

Key words: MR Diffusion; ADC; b- value; brain tumors; treatment response

Endovascular treatment of intracranial aneurysm - our eleven years experience

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Introduction: Spontaneous rupture of cerebral aneurysms typically results in subarachnoid hemorrhage and 10 % of patients die before reaching the hospital. Greatest risk to life is aneurysm re-bleeding although cerebral vasospasm makes a significant contribution to overall morbidity and mortality. The primary goal of treatment of cerebral aneurysms is to prevent future rupture. The best available data suggest that previously unruptured aneurysms carry a risk of hemorrhage of about 1-2 % per year, depending of size, location and other risk factors. The presence of multiple aneurysms and a family history of subarachnoid hemorrhage also raise the risk of rupture. Once an aneurysm has ruptured, the chance of re-hemorrhage dramatically increases. In 1991, Guglielmi detachable coil (GDC) embolization was introduced as an alternative method for treating selected aneurysm patients

Goal of EVT is complete exclusion of the aneurysm from the flow of blood.

Technological advances in endovascular treatment devices have also improved this method of treatment (assisted coiling- balloon, stent, flow- diverter, liquids itc.)

The relative risk of death or significant disability at one year for patients treated with coils was 22.6 percent lower than in surgically-treated patients(ISAT). The only multi-center prospective randomized clinical trial - considered the gold-standard in study design - comparing surgical clipping and endovascular coiling of ruptured aneurysm is the International Subarachnoid Aneurysm Trial (ISAT).

In our University Clinic of Radiology EVT with coil started 2005.

Material and Method: At our clinic 158 patient witch underwent endovascular treatment of 176 intracranial aneurysm ruptured and unruptured from Jun 2010- Jun 2016. Interventions made by our protocol under general anesthesia. On anterior circulation, internal carotid and branches 129 and posterior, vertebrobazilar system 47. Endovascular treatment was mostly just coiling and small part stent assisted and five cases only with flow diverter.

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Result: We had good result in treated aneurysms with complication rate equivalent to world published numbers: morbidity 3-10% and mortality 1-2%.

Conclusion: Endovascular therapy is a minimally invasive procedure that accesses the treatment area from within the blood vessel. This study provides compelling evidence that, if medically possible, all patients with ruptured brain aneurysms should receive an endovascular consultation as part of the protocol for the treatment of brain aneurysms. Although no multi-center randomized clinical trial comparing endovascular coiling and surgical treatment of unruptured aneurysms has yet been conducted, retrospective analyses have found that endovascular coiling is associated with less risk of bad outcomes, shorter hospital stays and shorter recovery times compared with surgery.