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Cervical adenopathies: diagnostic efficacy of DCMR

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**Purpose:** Pre-operative differentiation of benign from malignant cervical adenopathies (CN) remains a challenge. We assessed the efficacy of dynamic contrast MRI (DCEMR) for differentiation between benign and malignant CN.

**Methods and Materials:** DCEMR were performed in patients with CN who were candidates for surgical resection, before radiotherapy or chemotherapy.

In all patients we used 3 Tesla MRI with fast spin echo T2- and T1-weighted images in axial and coronal planes and T1 weighted after contrast medium administration. We recorded dynamic curves and values every 30 seconds up to 10-15 minutes after contrast injection. Data were evaluated in a mixed model analysis and findings were compared with postoperative histopathologic results.

**Results:** 49 cervical lymph nodes (17 benign and 32 malignant) were included in this study. In time-intensity curves there were significant differences between benign and malignant groups in two parameters: 5-minute washout slope (p value: 0.008) and 5-minute washout ratio (p value: 0.013). For 5-minute washout slope there were 96% sensitivity and 27% specificity at cut-off point: 1.7, 100% specificity and 40% sensitivity at cut-off point: 7.4, 70% sensitivity and 70% specificity at cut-off point: 3. Other DCEMR parameters, lymph nodes sizes and T2w heterogeneity were different but not significant statistically. Also necrosis only was present in malignant lymph nodes.

**Conclusion:** DCEMR only for washout ratio and slope at 5 minutes after contrast injection could be helpful in differentiation between benign and malignant CN in this study but larger studies are necessary.