LYMPHOVASCULAR INVASION IS A RISK FACTOR FOR UNDERSTAGING IN PT1 UROTHELIAL CARCINOMA OF THE BLADDER
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Introduction: The presence of lymphovascular invasion (LVI) in pT1 urothelial carcinoma of the bladder (UCB) might indicate understaging but is not routinely assessed immunohistochemically.

Patients and Methods: Of 275 patients with UCB undergoing radical cystectomy (RC), 32 (mean age: 64 years, 38-86; 24 men, 8 women) had histologically confirmed pT1 UCB at primary diagnosis. The presence of LVI in TUR-B and corresponding RC specimens was assessed using conventional H&E and specific immunohistochemical (IHC) staining against the lymphatic (D2-40) and vascular endothelium (CD 31).

Results: In RC specimens, pT1 UCB was confirmed in 16 of the 32 patients (50%). Conversely, 16 patients (50%) were understaged (\(\leq\) pT2a and/or pN+) on TUR-B specimens. LVI was detected in 8/16 understaged patients (50%) but in none with confirmed pT1 UCB (\(p=0.002\)). In TUR-BT specimens, none with confirmed pT1 UCB showed LVI, but 2/16 patients (25%) with understaged disease (sensitivity 13%, specificity 100%, positive/negative predictive value 100%/50%). Detrusor muscle tissue was present in 31/32 TUR-B specimens (97%). At conventional H&E assessment, LVI was not detectable in 2 TUR-B and 6 RC specimens, as compared to additional IHC work-up.

Conclusions: Understaging in pT1 UCB is frequent (53%) and significantly more likely when LVI is present. IHC assessment of LVI in pT1 UCB is characterized by a low sensitivity (13%) but high specificity and positive predictive value (100%) for the detection of understaged disease. Additional IHC staining on a regular basis might help to increase the detection rate of LVI and reduce understaging in pT1 UCB.