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Urinary Neuroendocrine Neoplasms Treated in the “Modern Era”: A Multicenter Retrospective Review



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BACKGROUND: Primary urinary neuroendocrine neoplasms (U-NENs) are extremely rare. Treatments are chosen by extrapolation from other primary sites, recognizing the field has evolved significantly since 2010 (revisions to WHO classification schemes and FDA-approvals for non-U-NENs).

METHODS: Multicenter retrospective review of U-NEN patients (pts) diagnosed after 2005 and alive after 2010. “Modern-era therapies” (METs) were defined as those recommended by the National Comprehensive Cancer Network (NCCN) for NENs after 2010 (e.g. immunotherapy, lanreotide, everolimus, sunitinib, Lu177 dotatate). Log rank test used for difference in survival.

RESULTS: 101 U-NENs from four centers (32% female, 22% non-Caucasian), five primary sites, 67% poorly differentiated (Table 1). 40% pts received ≥ 1 MET. Five-year survival differed by primary, grade, differentiation, smoking, and diagnosis stage. No significant survival difference if patient received MET.

CONCLUSION: This is one of the largest U-NEN series ever reported. Differentiation varied by primary site and outcomes by group, consistent with previous reports. METs were used to treat U-NENs despite paucity of data. Prospective studies are needed to assess validity of applying non-urinary NEN treatment guidelines to this under-studied group.

TABLE 1

	Total, n=101	5-Yr OS from Diagnosis (%) Survivor function [95% CI]	P-value (Log rank)
Primary	Bladder (n=65) Kidney (n=30) Ureter (n=2)* Urethra (n=2)* Unknown (n=2)*	0.28 [0.15-0.43] 0.87 [0.65-0.96] - - -	<0.001
Grade	G1 (n=8) G2 (n=17) G3 (n=71) Unknown (n=5)	0.83 [0.27-0.97] 0.94 [0.65-0.99] 0.25 [0.13-0.40] 0.80 [0.20-0.97]	<0.001
Differentiation	Well (n=25) Poor (n=68) Unknown (n=8)	0.89 [0.61-0.97] 0.27 [0.14-0.42] 0.57 [0.17-0.84]	<0.001
Smoking	Never (n=39) Current (n=10) Former (n=51) Unknown (n=1)*	0.68 [0.48-0.82] 0.48 [0.16-0.74] 0.30 [0.14-0.47] -	0.015
Metastatic at Diagnosis	Yes (n=32) No (n=67) Unknown (n=2)*	0.34 [0.16-0.53] 0.54 [0.39-0.67] -	0.053
Primary Resection	Total (n=45) Partial (n=29) None (n=27)	0.66 [0.47-0.79] 0.31 [0.12-0.52] 0.35 [0.16-0.57]	0.002
Modern-era Therapy	Yes (n=40) No (n=61)	0.56 [0.36-0.71] 0.43 [0.28-0.58]	0.153

*Excluded

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