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Impact of Ki67 Re-Assessment at Time of Disease Progression in Patients with Pancreatic Neuroendocrine Neoplasms

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BACKGROUND: Although re-assessment of proliferative activity by K67 evaluation during the course of neuroendocrine neoplasms (NENs) is recommended in selected patients, its impact on patients' management is not clear due to the lack of data supporting this practice. Aim of this study was to investigate Ki67 change at time of progressive disease (PD) in entero-pancreatic NENs (EP-NENs).

METHODS: Retrospective analysis of sporadic EP-NENs which received histological re-assessment after PD once radiologically documented.

RESULTS: Forty-three patients were evaluated, including 24 pancreatic NENs (PNENs), and 19 small intestine NENs (SI-NENs). At time of initial histological evaluation, 19 patients had grade 1 (G1) NENs (44.2%), and 24 grade 2 (G2) NENs (55.8%), overall median Ki67 being 3% (range 1%-20%). At time of PD, 13 patients had G1 NENs (30.2%), 26 G2 NENs (60.5%), and 4 had grade 3 (G3) NECs (9.3%), thus resulting in a significant median Ki67 increase (8%, range 1%-70%; p = 0.0006), and a G upgrading in 12 patients (27.9%). A statistically significant Ki67 increase and G grading change at time of PD was observed in PNENs (p =

0.0005 and p = 0.028, respectively). Conversely, no statistically significant change occurred in non-PNENs.

CONCLUSION: In PNENs with documented PD, Ki67 increase occurs in a significant proportion of patients, providing useful information necessary to choose appropriate therapeutic options.