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Clinical Effect of Temozolomide in Poorly Differentiated Endocrine Carcinoma (PDEC) after Progression on First-line Chemotherapy

Staffan Welin¹ MD, PhD, Halfdan Sorbye²MD, PhD,
Sigrunn Sebjornsen² MD, Stian Knappskog^{2,3} PhD,
Christian Busch⁴ MD, Kjell Öberg¹ MD, PhD

¹ Dept of Medical Sciences, Endocrine Oncology, Uppsala University, Uppsala, Sweden

² Dept of Oncology, Haukeland University Hospital, Bergen, Norway

³ Section of Oncology, Institute of Medicine, University of Bergen, Norway

⁴ Dept of Surgery, Haukeland University Hospital, Bergen, Norway

Background: Poorly differentiated endocrine carcinomas (PDEC) are highly malignant tumors with short survival. The combination of cisplatin and etoposide is frequently used as first-line palliative chemotherapy. There are no published studies concerning second-line treatment of the disease. Temozolomide has shown clinical effect in well-differentiated endocrine carcinomas and this study was performed to evaluate the possible effect of temozolomide in PDEC patients who progressed on first-line treatment.

Methods: Twenty-five patients with PDEC (mainly gastrointestinal) were treated with temozolomide alone or in combination with capecitabine. A subset of patient also received bevacizumab. MGMT methylation was analysed in tissue specimens.

Results: One third of the patients showed an objective response for a median of nine months including one patient with a complete response and seven patients with partial response. Another 38% had stable disease with a median duration of seven month. Median progression free survival for all was six months and overall survival was 13 months. Only one patient had a MGMT methylation.

Conclusion: Treatment with temozolomide alone or in combination with capecitabine and bevacizumab resulted in objective response or stabilization in 71 % of PDEC patients failing on first line chemotherapy. These results indicate that temozolomide may be used as second line treatment in PDEC.

