Vascular Endothelial Growth Factor Detection in Serous Pancreatic Cysts: Have We Really Reached a Breakthrough?

Emmanouil Giorgakis, MD, MS(c), MRCS(Ed), Vasileios Mavroeidis, MD, Dimitrios Tsironis, MD, MS(c), Brian Davidson, MBChB, MD, FRCS (Eng), FRCPs (Glasg) London, UK

It was with great interest that we read the article published by Yip-Schneider and colleagues1 on which we would like to comment. The authors demonstrated that vascular endothelial growth factor (VEGF-A) was considerably elevated in patients with serous cystic neoplasm (SCN), providing 100% sensitivity and 97% specificity; VEGF-C had the same sensitivity but inferior specificity (90%). Pancreatic fluid samples were analyzed for VEGF-A by ELISA and correlated with the surgical pathologic diagnosis. It is crucial to clarify whether all these lesions were eventually resected; otherwise, the alternative tissue sampling method should be described in order to exclude a potential sampling error.

The authors used 8,500 pg/mL as cut-off for VEGF-A and 200 pg/mL for VEGF-C, calculated from a study of only 87 patients; these cut-offs need to prove reproducible in bigger cohorts before deemed valid.

Both VEGF and its receptors (VEGFR2) are overexpressed in pancreatic cancer, with VEGF acting as a strong mitogen, participating in tumor spread.2,3 High VEGF levels are correlated with disease progression and dismal prognosis.2-5 Perhaps understandably, the authors suggest that VEGF abundance in the SCNs is related to the high vascularity of their walls; nonetheless, this novel finding of VEGF overexpression in SCNs, when associated with the established knowledge of VEGF’s relationship to disease progression in pancreatic cancer, stands out as intriguing to say the least.

Von Hippel-Lindau (VHL) disease is related to multiple micro- and macrocystic adenomas6 as well as cystic and solid neuroendocrine and diffuse pancreatic tumors.7 Given VHL’s protean nature and its demonstrated tendency to overexpress VEGF, cyst fluid VEGF-A positivity might provide false assurance and hinder the timely diagnosis of a VHL-related evolving malignancy.

REFERENCES

Disclosure Information: Nothing to disclose.

Vascular Endothelial Growth Factor In Reply to Giorgakis and colleagues

Michele Yip-Schneider, PhD, C Max Schmidt, PhD, MD, MBA Indianapolis, IN

We appreciate the insightful comments raised by Emmanouil Giorgakis and colleagues. In response, we confirm that all lesions included in the vascular endothelial growth factor (VEGF) analysis were resected and pathologically confirmed. We agree that the reported results and cut-off values do need to be validated further before they can be applied with confidence in clinical practice. To that end, our results have been independently validated in a separate group of patients at Massachusetts General Hospital, Boston, MA (personal communication, Cristina R Ferrone, MD). Few institutions have sufficient pancreatic cyst fluid specimens banked and available to confirm our...