ASO AUTHOR REFLECTIONS

ASO Author Reflections: Circulating Neuroendocrine Gene Transcripts (NETest): A Promising Biomarker for Pancreatic Neuroendocrine Tumours (PanNET)

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PAST

Surgery is the treatment of choice for localized pancreatic neuroendocrine tumours (PanNET) being associated with a high rate of cure and favorable prognosis.[1] The overall risk of recurrence after radical pancreatic resection is relatively low although it can be higher in the presence of aggressive features such as large tumors or distant metastases. Currently, high-quality imaging techniques represent the main modality of follow-up after surgery for PanNET but they can fail to early detect recurrent disease or residual tumor. Blood biomarkers, such as Chromogranin A (CgA), have been advocated but several studies have demonstrated the low sensitivity and specificity in determining the surgical efficacy in patients affected by PanNET.[2] A blood test panel of NET markers genes (NETest) has provided useful information regarding disease progression after different types of treatment.[3] This study evaluated the efficacy of NETest in the diagnosis of PanNET and in the assessment of the efficacy of pancreatic surgical resections for PanNET.

PRESENT

In this prospective study in 30 patients who underwent surgical resection for PanNET, blood for NETest and CgA was collected preoperatively and on postoperative day 1 (POD1), 5 (POD5) and 30 (POD30). Preoperative NETest score was increased in all the patients and it was significantly higher compared to NETest score measured on POD1, POD5 and POD30. The proportion of patients with an elevated NETest decreased significantly from preoperative period to POD30. Preoperative CgA levels were elevated only in one third of patients and they did not decrease significantly after surgery. The number of patients with elevated CgA levels remained unchanged.[4]

FUTURE

This study provides evidence that the NETest is an accurate diagnostic biomarker for PanNET and an accurate tool for determining the efficacy of surgical resection and for assessing the initial postoperative disease status. Although the validation of this multianalyte gene blood test is an important first step, the accuracy of NETest in early prediction of disease recurrence after surgery is eventually the most clinically relevant outcome. It seems likely that early detection of residual disease or recurrence will facilitate the early introduction of effective therapy increasing the efficacy of treatment when disease burden is lower. The following phase of this prospective study[4] will define how effective the NETest alone is in identifying recurrence or progression after pancreatic surgery and how much earlier it can detect alteration in disease status as compared to traditional imaging techniques.

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