ISSN: 2977-0033

Short Communication

Journal of Clinical Research and Case Studies

Endoscopic Ultrasound (EUS) guided Radiofrequency Ablation (RFA) in Treatment of Functional & Non-Functional Pancreatic Neuroendocrine Tumors

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Received: February 09, 2024; **Accepted:** February 10, 2024; **Published:** February 12, 2024

Pancreatic insulinomas are the most common functional neuroendocrine tumors. Surgery with a preserving approach has been the mainstay of treatment thus far. However, Endoscopic ultrasound (EUS) guided Radiofrequency Ablation (RFA) has emerged to be a novel concept that could potentially offer a non-surgical approach in the treatment of insulinomas.

A retrospective study evaluated the safety and efficacy of using EUS-RFA to treat functional and non- functional pancreatic neuroendocrine tumors [1]. The cohort included 18 adults with 7 insulinoma patients and 11 patients with non-functional pancreatic neuroendocrine tumors. Typical post-ablative changes seen on surveillance imaging defined technical success. Technical success was achieved in 26 out of 27 lesions. Patients with insulinomas showed excellent clinical response with normalization of blood glucose levels was seen in all seven patients within 24 hours of treatment. There were no major complications noted overall at 48 hours post procedure. Notably, there were no clinically significant recurrences at mean follow up of 4.6 months [1].

A study followed the clinical course of patients with pancreatic insulinoma who were treated with EUS-RFA at tertiary care center [2]. Study included 7 patients with insulinomas who underwent EUS-RFA. Immediate hypoglycemia was noted after only 1 treatment session. 6 out of the 7 patients achieved complete response by cross-sectional imaging and remained asymptomatic. Minor adverse events were reported in 3 patients. One patient had a large retrogastric collection and died subsequently.

There can be numerous serious post-operative complications associated with surgical resection of pancreatic neuroendocrine tumors. Pancreatic fistula formation after tumor enucleation (most commonly seen with central pancreatectomy) can be seen in as many as 45% of cases. Post-operative pancreatic fistulas are a major cause of morbidity in these patients. Post-operative hemorrhage and high in-hospital mortality rates are also concerning. Patients may also not be great surgical candidates depending on their age and comorbidities. All these factors prompt the need to provide a non-surgical option for patients with pancreatic neuroendocrine tumors. EUS-RFA can therefore be a great non-surgical alternative to consider in these patients. We will need prospective studies in the future however to determine its efficacy and validity.

References

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Citation: Annie Shergill, Luis Nasiff. Endoscopic Ultrasound (EUS) guided Radiofrequency Ablation (RFA) in Treatment of Functional & Non-Functional Pancreatic Neuroendocrine Tumors. J Clin Res Case Stud. 2024. 2(1): 1-1. DOI: doi.org/10.61440/JCRCS.2024.v2.31