ENDOSCOPY ULTRASOUND GUIDED RADIOFREQUENCY ABLATION OF FUNCTIONING INSULINOMA IN SYMPTOMATIC PATIENTS UNFIT FOR SURGERY



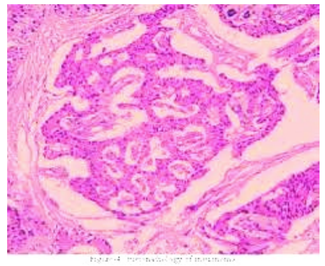
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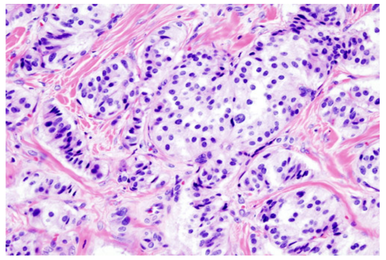
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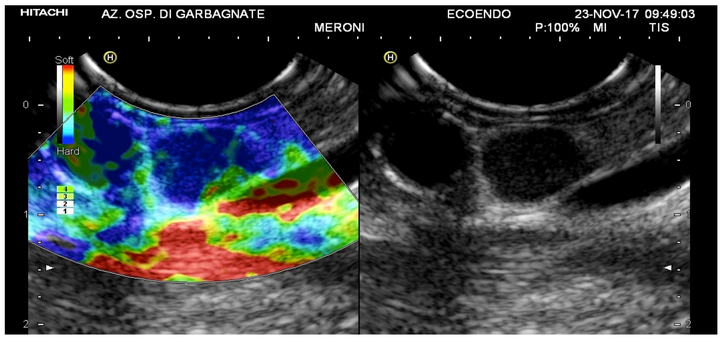
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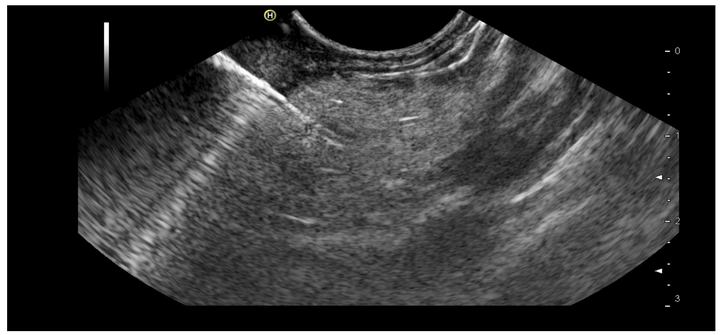
Background and Aim

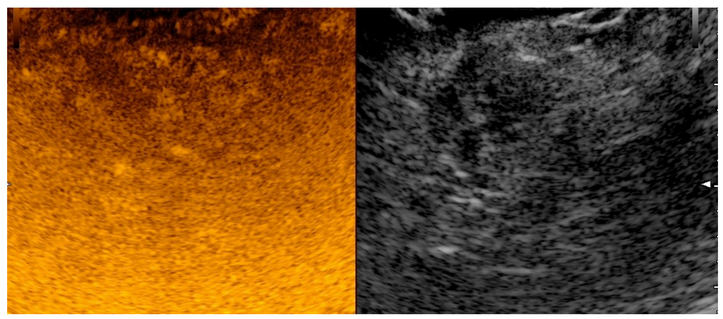
Benign insulinoma is the most common functioning neuroendocrine tumor of the pancreas.The gold-standard therapeutic approach for insulinoma is surgery for tumor removal, histology and immunochemical analyses. Radiofrequency ablation (RFA), is applied in the treatment of several malignancies achieving tumor necrosis by cell protein denaturation. Energy is provided by an RFA current generator, which is connected to an active electrode needle that is placed into the tumor under image guidance. The lesions created have variable diameters, depending on the intensity of the current used, the active tip length, and the treatment duration. Recently a novel RFA needle (EUSRA RF Electrode; STARmed, Koyang, Korea) has been developed for use under endoscopic ultrasound (EUS) guidance.It is an 19 G water-cooled needle, with a long active tip which is connected to a radiofrequency generator (VIVA RF generator; STARmed)











Matherials and methods

In this case, we describe the successful use of endoscopy ultrasound (eus) guided radiofrequency ablation (RFA) of an insulinoma in an 76-year-old female patient. The patient was referred to our hospital for multiple episodes of severe nightly hypoglycemia with a minimal glucose concentration of 1.90 mmol/l (32 mg/dl). A focal lesion compatible with an insulinoma measuring 10 mm in diameter, with sharp border, iperenhancement at evaluation with mdc ev, was localized by endoscopic ultrasound and CT scan in the tail of the pancreas. EUS-guided fine needle aspiration (FNB, 19 G) revealed apancreatic neuroendocrine tumor (pNET) with a Ki67proliferative index of ><1 %, consistent with a G1 grading and with immunohistohemistry test compatible with insulinoma. For high surgical risk due to patient's comorbidities, the resection of the tumor was not considered. The medical treatment failed to control the symptoms of hypoglycemia sufficiently

Results

Using eus-guided percutaneous RFA (19 G electrode, 10 watt 60 sec, 2 passes), the insulinoma was successfully ablated. No postinterventional complications occurred. During a 30-week follow-up, episodes of hypoglycemia were absent. A control eus CT, 4 weeks after RFA, revealed no residual tumor

Conclusions

In conclusion, eus guided RFA is feasible, suitable, safe and effective for the treatment of pancreatic insulinomas. Until more data concerning long term follow up and complication rates have been collected, the procedure should be reserved for the treatment of symptomatic patients who are no candidates for surgical therapy