



ORIGINAL RESEARCH PAPER

Oncology

RADIOFREQUENCY ABLATION USE IN FIELD OF RADIATION ONCOLOGY, RADIATION ONCOLOGIST PROSPECTIVE

KEY WORDS: RFA, CT Scan, Usg

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ABSTRACT

Radiofrequency Ablation (RFA) was discovered by the Physicist Jacques Arsene D, Arsonval. It destroys the metastatic single solitary lesions by process of thermo coagulation method in order to achieved thermo coagulation temperature should be more than 70° centigrade to achieve good tumor response .Response usually assessed by help of CT scan , Ultrasonography methods Usg .

Indication of Radiofrequency ablation in oncology -

- 1-Single solitary liver metastasis of colorectal cancer, breast cancer, melanoma.
- 2- Sized of metastasis must be up to 3cm or less then 3cm.

Procedure of Radiofrequency ablation -

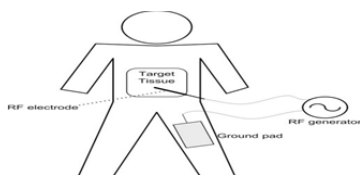


FIGURE -1 RFA ELECTRICAL PORT CONNECTIONS

Procedure of radiofrequency ablation usually done under local anesthesia or under sedation, first we localized the lesion by help of Ultrasonography then we insert the long Needle probe into center of the lesion , when needle reached into lesion continuous irrigation with help of normal saline done into lesion site its serves two purpose one its prevent unnecessary charring of tumor tissue because we intend for the death of tumor tissue not charring of it second continuous irrigation of saline being good electricity conductor because of having ions in saline so it maintain electricity supply in and around tumor tissue .

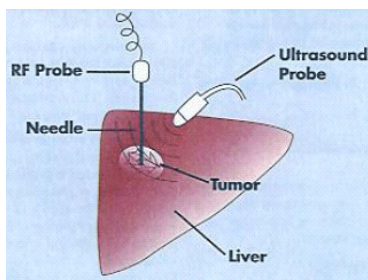


FIGURE -2 NEEDLE IN LIVER SECONDARY IN RFA

Major Advantage of Radiofrequency ablation-
This procedure can be done many times thus it has got good repeatability in compare to radiotherapy procedure or surgical procedure.

Complication of Radiofrequency ablation -

- 1-Reactionary pleural effusion occurs due to irritation of right side of diaphragm.
- 2- Capsular hematoma
- 3- Hemorrhage.

Post Procedure Follow-up of patients under gone Radiofrequency ablation -

CT scan must be done after twenty four hours of RFA procedure in order to see tumor edema in and around the liver secondary. If found larger in volume in compare to pre procedure CT scan this indicates good job done during RFA Procedure.

RFA under Special Case-

When single solitary liver metastasis is found on superior surface of live close to diaphragm than we found difficulty in inserting needle in that case we create artificial ascetics with the help of 5% dextrose fluid infusion in abdomen which create space widen up between diaphragm and superior surface of liver in order to avoid injury during RFA procedure to diaphragm ascetics created with 5% dextrose not with normal saline because saline contains ions which is a good conductors of electricity so it will unnecessary circulate electricity in whole abdomen thus causing rest of gastro intestinal organ injury .

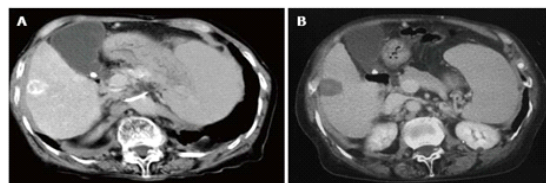


FIGURE -3 A: Contrast-enhanced computed tomography (CT) shows hepatocellular carcinoma in segment 6 of the liver;
3B: Abdominal CT image at just radiofrequency ablation shows a lesion of ablation

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