

ROLE OF RADIOFREQUENCY ABLATION IN ADENOMA SEBACEUM

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ABSTRACT

Adenoma sebaceum, pathognomonic of tuberous sclerosis, are tiny angiofibromas which commonly occur over central part of face. Recurrence after treatment is common and hence a need for inexpensive, safe and efficient treatment is required. Radiofrequency ablation is a safe and an economical procedure and has been known to cause less scarring with good aesthetic results compared to other ablative methods such as electrocautery.

KEYWORDS

Adenoma sebaceum, Radiofrequency, Tuberous sclerosis, Disfigurement.

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INTRODUCTION: Adenoma sebaceum, pathognomonic of tuberous sclerosis, are tiny angiofibromas which commonly occur over central part of face. This causes severe physical disfigurement and lowers the morale of patients. Various modalities of treatment, viz., lasers, cryosurgery, dermabrasion have been used with varying results.^[1-8] Recurrence after treatment is common and hence there is a need for inexpensive, safe and efficient treatment. There are several reports of laser ablation of these growths,^[7,8] but using laser for all patients is not feasible in India due to high expenditure incurred and financial constraints and the availability of expertise and infrastructure. Radiofrequency ablation is a safe, economical procedure and has been known to cause less scarring and giving good aesthetic results than other ablative methods such as electrocautery. It has been used for treating various neoplasms with effective results.^[9-11]

CASE REPORT: A 24-year-old male patient, resident of Mahabubnagar came to OGH with complaints of raised skin coloured lesions on the face from 6 years of his age. Patient was apparently asymptomatic before 6 years of his age, then he noticed skin coloured lesions over the face which gradually progressed in nature. H/o seizures since 8 years of his age and is on antiepileptics since the age of 8 years. O/E multiple skin coloured papules were noticed over nasolabial area, malar area, periorbital area, forehead, front and behind the ear lobules. Few dental pits were found. Skin coloured patches were noticed on the trunk s/o Shagreen patch. E/O of hair and nails were found to be normal. All the serological investigations were found to be normal. CT scan of the brain suggested calcified cysts in the brain. By these

clinical and radiological collaborative findings, the diagnosis of tuberous sclerosis was confirmed.

As the patient could not afford laser treatment for the adenoma sebaceum, the cheaper option of radiofrequency ablation was considered. The radiofrequency procedure was done under local anaesthesia with 2% lignocaine and with 2 MHz voltage current all the lesions were ablated.

After the procedure, antibiotic dressing was done which was changed every day for a week. Systemic antibiotics and analgesics were administered for a week. Ablated wound healed with mild hyperpigmentation which was acceptable to the patient. There was no any evidence of scarring.



Fig. 1: Before treatment-multiple angiofibromas on face



Fig. 2: RF ablation of the lesions

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Fig. 3: Two weeks after treatment

DISCUSSION: The term adenoma sebaceum is a misnomer as it is not related to the sebaceous glands, but is a benign tumour with both angiomatous and fibrous components. Adenoma sebaceum starts appearing by 5-10 years of age, and gradually increases till puberty, after which it is commonly found to stabilise. The papules commonly involve the central face, bilaterally and symmetrically covering the glabellar area, the dorsum of nose, adjoining cheeks, upper lip, and chin. However, there are reports of unilateral or segmental distribution of adenoma sebaceum.^[12] Angiofibromas similar to adenoma sebaceum have been reported in multiple endocrine neoplasia I.^[13] Although there are no reports of malignant transformation, they are of concern due to the cosmetic disfigurement. Hence, patients frequently seek treatment and it is necessary to treat these growths in view of their matrimonial issues which are of social concern. Various techniques for ablation of tumours have been described including shave excision with cultured epithelial autografts^[1] dermabrasion,^[2-4] cryotherapy,^[5] lasers [Argon laser,^[6] carbon dioxide lasers,^[7] and carbon dioxide resurfacing with fibrin sealing.^[8] There are various reports of ablation of adenoma sebaceum by lasers with varied results. Carbon dioxide lasers are commonly employed for ablation. Lasers are an expensive treatment for the patients and incur a huge investment in the form of infrastructure with restricted availability by the treating dermatologists. The radiofrequency machine converts wall outlet alternating current to low ampere, high voltage current which generates high frequency (500-4000 KHz) oscillating radio waves termed as Sine waves. Pure sine waves (cut mode) are employed for cutting and dampened waves (coagulation mode) for ablative procedures where there is a risk of bleeding.^[14] Energy generated due to the passage of radiofrequency waves through the tissue causes destruction of tissues. Lateral spread of energy is minimal with a radiofrequency machine and hence, it gives better cosmetic results than electrocautery. In dark-skinned patients, dermatosurgical procedures are always fraught with the risk of post-inflammatory hyperpigmentation.^[15] Another disadvantage with the treatment of adenoma sebaceum is the recurrence of these hamartomas which has to be carefully followed up. Radiofrequency is a safe, effective, and economical therapeutic option for treating adenoma sebaceum with good aesthetic results.

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