

Cryo-therapy in granuloma pyogenicum

Sir,

Granuloma pyogenicum is a vascular lesion composed of proliferating capillaries in a loose stroma. It is due to proliferating small blood vessels coming through a breach in the epidermis. The epidermis forms a collarette at the base of the lesion and covers part or whole of the lesion in a thin layer.^[1]

Various modalities available to treat the lesion of granuloma pyogenicum include curettage and cauterization, coagulation of the base with diathermy, excision and sutures, cryo-therapy with liquid nitrogen or nitrous oxide and lasers.

In an earlier communication,^[2] two cases of granuloma pyogenicum were treated in single sitting by N₂O operated cryo-machine with complete clearance of the lesions without any scar along with 211 cases of various other cryo-responsive dermatoses. In this study the effect of cryo-therapy in nine cases of granuloma pyogenicum is being evaluated.

Twenty patients having 22 lesions of granuloma pyogenicum diagnosed clinically were included in the study. After detailed clinical history, examination and informed consent the lesion (s) was subjected to nitrous oxide (boiling point -94°C) operated, close probe system cryo-machine, worked on Joule Thomson effect. 1-3 freeze and thaw cycle lasting from 5-60 seconds was used as one sitting, which is able to freeze the whole lesion including 1-2 mm surrounding normal skin. The patients were examined every week for any infection or bleeding after cryotherapy. If there was mild or no improvement, cryo was repeated at an interval of 10-14 days. Patients were instructed to put firm pressure on the lesion if there was any bleeding from the lesions.

Of the 20 patients included, there were 12 females and eight males between the age of six to 56 years. Majority of the lesions were located on the face (Nose - 5, cheek - 5, eyelids - 2, forehead -1, pinna -1, scalp -1), rest were present on fingers - 3 and one each on feet, palm, abdomen and chest.

The duration of the lesions varied from five days to six years, majority being between one to 12 weeks.

Number of cryo-therapy sittings done was one in 15 patients and two in 5 patients. Two patients developed infection in the lesions after cryotherapy, which was treated with systemic antibiotics. Eight patients were lost to follow-up after the first sitting. The lesions of remaining seven patients healed without any scar except in one who developed a very small fibroma at the site of GP that was subsequently subjected to cryo-therapy and cleared without any trace. Three patients were lost to follow-up after the second sitting, while lesion in two patients showed complete clearance without any scar. The healing duration after cryo-therapy in GP varies from 9-14 days. However, if secondary infection takes place, it is prolonged to four-five weeks. All the nine patients who showed complete clearance had been followed-up for three months post-treatment period and had showed no recurrence.

Granuloma pyogenicum, a benign vascular proliferative lesion of the skin and mucous membrane is very common in children. The exact cause of the GP is unknown. The possible causes include trauma, infection or preceding dermatoses,^[3] Ghodsi *et al.*^[4] in a comparative study between liquid nitrogen operated cryo-therapy and curettage found that curettage needed 1-2 sitting (1.03), while cryo-therapy need 1-3 (1.42) sittings. Other methods used by various workers include cauterization with silver nitrate,^[5] sclerotherapy with sodium tetradecyl sulfate and monoethanolamine oleat,^[6,7] ligation,^[8] absolute ethanol injection,^[9] Dye, Nd: YAG and CO₂ laser,^[10-12] shave excision and laser photocoagulation,^[13] micro-embolization, resection^[14] and imiquimod^[15] with variable results depending upon the skill of the operators and procedures.

In the present series, 12 patients who reported for follow-up after the first sitting of cryo-therapy, seven showed complete clearance without any scar while remaining five required further sitting. Of the five subjected to the second sitting

of cryo-therapy, two showed complete clearance, while the remaining three did not turn up for further advice. As we do not know the fate of GP in defaulted patients regarding the clearance of lesions, we have not taken them for evaluation.

With the above data, it is clear that if done properly all the lesions of granuloma pyogenicum can be cleared completely with N₂O operated cryo-machine without scar and pigmentation. N₂O cryo machine is convenient to carry, easily available, comparatively cheaper and poses no risk to the operator from accidental burning as occasionally seen with liquid N₂ when used directly with swab stick.

The above data suggests that if proper attention is given to this mode of treatment the cure rates are as good as with other modalities available for treatment of granuloma pyogenicum.

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