

Scalp Roller Therapy in Resistant Alopecia Areata

Sir,

Many therapeutic modalities have been used to treat alopecia areata (AA), with variable efficacy and safety profiles. Multiple patches, alopecia totalis/universalis have poor prognosis. A number of treatments can induce hair re-growth in AA but none can change the course of the disease. We report three cases of AA treated with Scalp Roller therapy, which were resistance to both systemic and topical treatment for inducing hair on cosmetic region like scalp.

Case 1: An 11-year-old girl presented with three well defined smooth patches of hair loss of over occipital area of 7 × 5 cm and right and left parietotemporal area (6 × 4 cm) for 2 years. Two patches over parietotemporal area showed speckled areas of depigmentation and superficial scarring due to intra-lesional steroid injections.

Case 2: A 34-year-old male presented with loss of hair over scalp (ophiasis pattern), eyebrows, beard area and axilla and loss of eyelashes since 4 years suggestive of alopecia universalis.

Case 3: An 18-year-old male presented with features of alopecia universalis for 2 years. Biopsy of case 1 was done and it showed features of AA. All the three cases were previously treated with contact sensitizers, topical tacrolimus, minoxidil and corticosteroids and oral mini pulse betamethasone. Case 1 was treated with intralesional steroids as well. There was some response noticed for few months and again there was relapse in all the three cases.

We treated all the three cases as below:



Figure 1: Photograph showing the scalp roller procedure and the solutions used

Under aseptic precautions scalp roller (1.0 mm) was rolled with gentle pressure to create microchannels. In a syringe a mixture of 1 ml of triamcinolone acetone (10 mg/ml), 0.5 ml of meso-solution (growth factors, copper tripeptide-1, multivitamins, aminoacids and minerals) and 0.5 ml of injectable minoxidil 2-5% (mesolgia) was taken and sprayed over the scalp [Figure 1]. Case 1 showed more than 90% improvement after four sessions [Figure 2]. Case 2 showed 50% improvement of scalp hair after five sessions. Case 3 showed 75% improvement in six sessions [Figures 3 and 4]. There were no adverse events noticed and improvement was not seen in eyebrows, axilla hair, etc., even though they were on systemic therapy. Hence Scalp Roller therapy might have helped in treating AA locally.

We used “Scalp Roller Therapy” because

1. Intralesional corticosteroids are widely used in the treatment of AA and is the first-line treatment in localised conditions involving < 50% of the scalp.^[1] When AA involves > 50% scalp area or multiple patches involved, intralesional injections would be painful and difficult to cover entire scalp. To reduce the adverse effects of triamcinolone acetone (TAC) like atrophy/depigmentation.
2. TAC (10 mg/ml) diluted with mesosolution+ injectable minoxidil (2-5%) instead of normal saline as few pilot studies have shown that cocktail solutions restore and increase local microcirculation, provide nutritional input, stimulate the hair’s environment through needling and complement other treatments.^[2] Contents of cocktail changes due to the physician’s practise and experience.^[3]
3. It allows a painless skin perforation and provides uniform delivery of therapeutic molecules into the scalp by creating microchannels.^[4] A pilot study by



Figure 2: Before and after photographs of right and left parieto-temporal patches and occipital patch after four sessions of scalp roller therapy



Figure 3: (a, b and c) shows patient with alopecia universalis (lateral profile) at session 1, after 4 sessions and 6 sessions; (d, e and f) shows occipital area at session 1, after four sessions and six sessions

Dhurat *et al.*, showed that microneedling with 5% minoxidil showed better response than only topical minoxidil in androgenetic alopecia.^[5]

4. Scalp roller breaks down the dermal capillaries and platelets begin to form a plug at the site of the damage to temporarily stem bleeding and release the chemotactic factors/growth factors. This suggests that Scalp Roller alone helps in stimulation of hair growth. Hence we advised our patients to do Scalp Roller therapy at weekly intervals.

We report three cases of resistant AA treated by multimodal approach where Scalp Roller therapy was found to be useful and safe in treating multiple patches/alopecia totalis. However, it cannot be ascertained strongly as to which modality worked, which needs randomised controlled studies to prove the efficacy. Hence we suggest that Scalp Roller therapy can be used as an effective adjunct to the conventional therapy to treat resistant AA cases locally.

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Figure 4: Before and after photograph after six sessions of scalp roller (frontal view). Note that there is no improvement in eyebrows, which was not treated

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