

Mesotherapy

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ABSTRACT

Mesotherapy is a technique which involves microinjections of conventional homeopathic medication and/ or vitamins into the mesoderm or middle layer of the skin to promote healing or corrective treatment to a specific area of the body. It is a debatable addition in the therapeutic armamentarium in the management of skin rejuvenation. However, dermatologists have to use this cautiously and judiciously as at present there is a lot of controversy regarding its efficacy and safety despite the fact that mesotherapy is gaining popularity in the West.

Key Words: Current status, Mesotherapy

Mesotherapy was invented by the Frenchman Dr. Michel Pistor in 1958 to treat conditions in rheumatology, sports, traumatology, infectious diseases, vascular diseases and mainly as a pain-relieving technique. The North American experience began when Dr. Lionel Bissoon learned the technique in France and later popularized it in America. Its cosmetic applications, particularly for removal of fat and cellulite have recently received attention in the United States.

Applications of mesotherapy in dermatology

Mesotherapy is used in the treatment of:

1. Cellulite
2. Local fat deposits - xanthelasma, lipoma^[1]
3. Alopecia
4. Rejuvenation - wrinkles, skin tightening
5. Hyperpigmentation and melasma
6. Body contouring^[2]

Products commonly used in mesotherapy

1. Phosphatidyl choline- dissolves fat^[3,4]
2. Organic silicium - increases collagen production
3. CRP 1000 - has cytokines for cellular stimulation and copper peptide which improves collagen and elastin synthesis

4. Hyaluronic acid- improves hydration
5. Following chemicals act as antioxidants and are claimed to decrease pigmentation:
 - Glutathione
 - Ascorbic acid
 - Glycolic acid
 - Pyruvate
6. Following chemicals are claimed to stimulate hair growth:
 - Buflomedial
 - Minoxidil
 - Finasteride
7. Vitamins
 - i. Vitamin C is used for hyperpigmentation and melasma. It acts as an antioxidant and helps in collagen and elastin production.
 - ii. Vitamin A is used in antiaging treatment to improve fine lines and
 - iii. Biotin is used in the treatment of alopecia.
8. Minerals like copper peptide are used for increasing the skin elasticity.

Contraindications

Contraindications to mesotherapy include:

How to cite this article: Vedamurthy M. Mesotherapy. Indian J Dermatol Venereol Leprol 2007;73:60-2.

Received: September, 2006. **Accepted:** December, 2006. **Source of Support:** Nil. **Conflict of Interest:** None declared.

- Pregnancy
- Insulin-dependent diabetes
- History of strokes
- History of recent cancer
- Thromboembolic phenomena
- Patients on medications like aspirin, warfarin, heparin etc.

Materials required for undertaking this therapy include:

- Mesotherapy products
- Mesogun [Figure 1]
- Mesoneedles (30 G. 12 mm needles)

Techniques of injections

Mesotherapy involves injecting microquantities of medicine in the right place, using one of the following techniques [Table 1]

- Intra-epidermal
- Papular
- Nappage
- Point-by-point

Intra-epidermal technique involves placing small quantities of the medicine within the epidermis. It is simple, painless and there is no bleeding. This technique is useful for patients with low pain threshold and is ideal for facial rejuvenation.

Papular technique involves injecting the medicine at the dermoepidermal junction. It is useful for treatment of wrinkles

Table 1: Depth of injections of mesotherapy techniques

Mesotherapy technique	Depth of injection
Intraepidermal	1 mm
Papular	2 mm
Nappage	2-4 mm
Point-by-point	4 mm

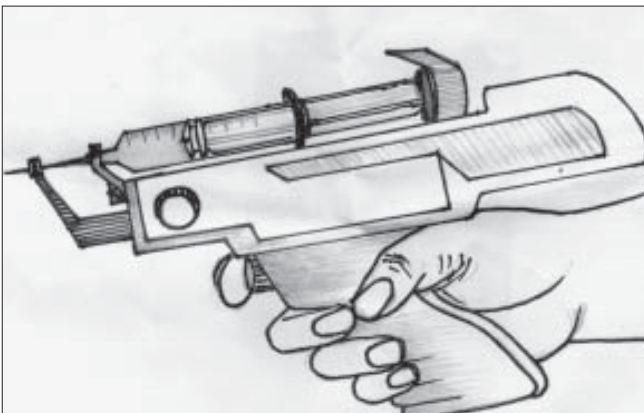


Figure 1: Mesogun

and alopecia. This is the technique used for mesobotox.

Nappage - Here injections are given at a depth of 2- 4 mm at an angle of 30-60°. It is used mainly on the scalp and in the treatment of cellulite.

Point-by-point - This is a precise single injection into the deep dermis. It is used mainly for fat reduction.

Treatment protocol

Usually, mesotherapy treatments are given initially as once per week for four weeks, once every two weeks for two months and once per month for one to two months to achieve best results.

Adverse effects

Adverse effects are common and depend on the product used

- Bruising and edema are common due to the inflammatory response provoked by some of the chemicals used in mesotherapy.
- Skin necrosis can occur due to the irritant effect of the chemicals used.
- Liver toxicity and demyelination of nerves have been reported with large doses of phosphatidyl choline.
- Atypical mycobacterial infections is a rare side effect.^[5] Following mesotherapy there have been reports of atypical mycobacterial infections at sites of injections necessitating antimycobacterial therapy.

Needle-less mesotherapy

This is a newer technique which delivers the mesotherapy products by using ultrasound and/ or iontophoresis. Although it is less traumatic and painless the efficacy of this treatment is only 20% compared to traditional mesotherapy. It may be an option if patients insist on a painless procedure.

Controversial aspects

Since the scientific basis of mesotherapy is not established there is a lot of controversy regarding mesotherapy. The products used here are a combination of herbal and allopathic medicines, the mechanism of action of which is either unknown or doubtful. There are no well-controlled studies to prove the efficacy of this treatment. It is not yet approved by the US FDA and scientific data to support its efficacy is lacking. Adverse effects have been reported with some of the chemicals used in this therapy and there are no clear-cut guidelines on the dosage and efficacy of these products. However, scientific data is likely to evolve with the continued use of these products. Until such time the use of this technique will probably remain a subject of controversy.

CONCLUSION

Although mesotherapy sounds like a new technique in dermatology, dermatologists have been using similar injection techniques to treat keloids and hypertrophic scars with steroids. The misuse of mesotherapy products in an unsafe manner has even led to the ban of these products in some countries. Therefore caution should be exercised while selecting the right and safe products. Products whose mechanism of action is well understood and whose adverse effects and doses are well studied should be chosen.

Despite the boom in mesotherapy in the West, we must remember that mesotherapy is a controversial therapy at the moment and that it is still in its infancy. More controlled and published studies in the literature are awaited for dermatologists to decide the future of this technique in their practice. Additional clinical and experimental studies are

necessary to establish the safety and efficacy of this treatment.

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