According to modern science, different types of warts have been identified, which are differing in shape and site, as well as the type of human papillomavirus involved. These include:

- **Common wart (verruca vulgaris):** A raised wart with roughened surface, most common on hands and knees.
- **Flat wart (verruca plana):** A small, smooth flattened wart, tan or flesh colored, which can occur in large numbers; most common on the face, neck, hands, wrists and knees.
- **Filiform or digitate wart:** A thread or finger-like wart, most common on the face, especially near the eyelids and lips.
- **Plantar wart (verruca, verruca pedis):** A hard sometimes painful lump, often with multiple black specks in the center; usually only found on pressure points on the soles of the feet.
- **Mosaic wart:** A group of tightly clustered plantar-type warts, commonly on the hands or soles of the feet.
- **Genital wart (venereal wart, condyloma acuminatum, verruca acuminata):** Wart affecting the genital areas.

These warts should be differentiated from the squamous cell carcinoma, molluscum contagiosum, epidermodysplasia verruciformis, callus, arsenic keratosis and syphilis. Many times, squamous cell carcinoma may be confused with common warts. The diagnosis of warts usually confirms by visual examination e.g. Plantar warts can be differentiated from corns and calluses by certain distinguishing features (Plantar warts obliterate natural lines of the skin, may contain red or black capillary dots that are easily discernible if the surface of the wart is shaved down with a scalpel, and are painful on application of pressure. Both plantar warts and corns have a soft, pulpy core surrounded...
by a thick callous ring; plantar warts and calluses are flush with the skin surface(3).

In practice, the treatment of warts is likely to require an individualized approach and usually requires more than one therapeutic modality to achieve complete resolution. The management of warts depends on the age of the patient, the site of infection, the size, number and types of warts involved, the patient’s immunological status, treatment availability and cost, and the patient’s desire for therapy and ability to adhere to the treatment regimen. For children, it is desirous to have an effective and painless treatment that shows rapid results.

According to contemporary science, the management consists mainly in destroying the warts by different methods like chemically, electrically or surgically and these can be achieved by cryosurgery, keratolytic ointments, plasters and solutions, curettage, electrodesiccation, and destructive acids.(3) In Ayurveda, it was described that the attainment of total management by using the internal drugs, external applications and Ksharakarma and Agnikarma.(4)

Materials and Methods

Materials

1. Stalks of the betel leaf, mixture of lime + copper sulfate in equal quantity.
2. Concentrated Kshara Jala – It is a solution prepared by mixing 10 g of Aapamarga Kshara in 50 ml of distilled water.
3. Paste of the Changeri leaves.
4. Agnikarma Shalaka or electro cautery.
5. Internal medications like Arogyavardhini, Manjishthadi kwath, Vatari guggulu (internal medicines are having limited role and may help in preventing recurrence after excision of the warts).
6. Ligation with the horse hair or Kshara sutra.

Methods

1. **Lekhana karma** (scraping procedure) - Mixture of lime and copper sulfate paste should be applied over the wart, after five minutes should be rubbed by the stalk of the betel leaf (Piper betle, Linn.)(6) from the base continuously till cutting of the full base of the wart.
2. Rubbing with the paste of the Changeri leaves (Oxalis corniculata, Linn.)(7) over the wart.
3. Application of the Kshara Jala (alkali lotion) - The concentrated Kshara Jala should be applied only over the warts for about 4-5 h for every day till it will get fall.
4. Ligation of the horse hair or Kshara sutra – Horse hair or Kshara sutra should be tied after applying around the base of wart.
5. Thermal cauterization (Agnikarma) – After infiltrating the LA at base, the warts can be excised by red hot Shalaka (pointed metallic rod) or electro cautery.

Observations of Different Procedures

The above described procedures should be done precisely to obtain the good outcome of treatment. In this regard, some of the below mentioned observations can be seen on different procedures:

1. **Scraping procedure** (Lekhana karma)
   i. Patient may get mild pain during the procedure.
   ii. Stalk of betel leaf can be changed during the procedure if it lost the strength (approximately 5-10 stalks may require for one wart).
   iii. During rubbing intermittently lime and copper sulfate paste can be applied by the stalk at the base.
   iv. After completing the procedure, bandaging can be done after dusting the turmeric powder for first day later on dressing with Jatyadi taila.
   v. This procedure may be beneficial in common warts and filiform warts.

2. **Rubbing with the paste of the Changeri leaves**
   i. This procedure can be continued till it will fall.
   ii. This procedure may be beneficial in cosmetically and flat warts.

3. **Application of the Kshara Jala (alkali water)**
   i. Application of the lotion with cotton squash
   ii. Precaution should be taken not to spill on the healthy skin.
   iii. This procedure may be beneficial in plantar warts.

4. **Ligation of the Horse hair or Kshara sutra**
   i. Ligation should be around the base of the wart.
   ii. Patient may get pain.
   iii. This procedure may be beneficial in filiform warts.

5. **Thermal cauterization (Agnikarma)**
   i. Local infiltration at the base of the wart.
   ii. Precaution should be taken not to injure the normal skin.
   iii. After completing the procedure, bandaging can be done after dusting the turmeric powder for first day later on dressing with Jatyadi taila.
   iv. This procedure may be beneficial in common warts, filiform warts, plantar warts and genital warts.

Discussion

In the management of the warts, the procedures described above will be beneficial in specific type of the wart. The above procedures may destroy the colonies of the virus and recurrence can be avoided. After excision, proper dressing playing important role to preventing scar formation. Internal medications may help in permitting recurrence.

As can be seen, an enormous variety of wart treatment approaches have been attempted. Choosing the best wart treatment from this armamentarium can be difficult. Recalcitrant warts that have been present for over six months are more resistant to treatment than warts present for less than six months. Invasive methods are often painful and require long recovery periods. Topical management like kshara and other applications are usually dependent on patient compliance and require long application periods.

It is important that primary care physicians are familiar with the many cutaneous fungal infections and their differential diagnosis to ensure that appropriate therapy is selected.

It was found that if warts are small and present on the face or other cosmetic parts of the body, the Changeri leaves paste is the best method as it will not cause the scar.

Prevention plays very important role and skin-to-skin contact
should be avoided in potentially infected tissue as there are chances of spreading of the virus and physician also should take proper precautions before doing the procedure.

**Conclusion**

The parasurgical methods which are described by our Acharyas are effective, easily practicable and can avoid the recurrence.

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