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Role of herbals in skin caring

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Abstract
These days, herbal products are very popular so as to deal with the skin problems. Most of the ingredients are taken from plant origins so as to prepare herbal products. All these herbal products have ingredients rich of nutrients necessary for a healthy skin and curing skin related problems.
In ayurvedic text, a lot of information is provided related to herbals and their usage. Biotic compounds with anti-microbial activity from the extracts of plants is determined with the help of TLC-Bioautography method. In fact, this method uses the growth reticence of microbes in detecting the anti-microbial components of extracts placed over layer. The current article highlights the role of herbals in skin caring.

Keywords: Herbal, Skin, Plant

1. Introduction
Skin is very critical organ of the human body. People ate more sensitive to their skin as compared to other organs of body. Everyone wants to have a fair skin. There are primarily three layers of body skin. These layers are Epidermis, Dermis, and Hypodermis.

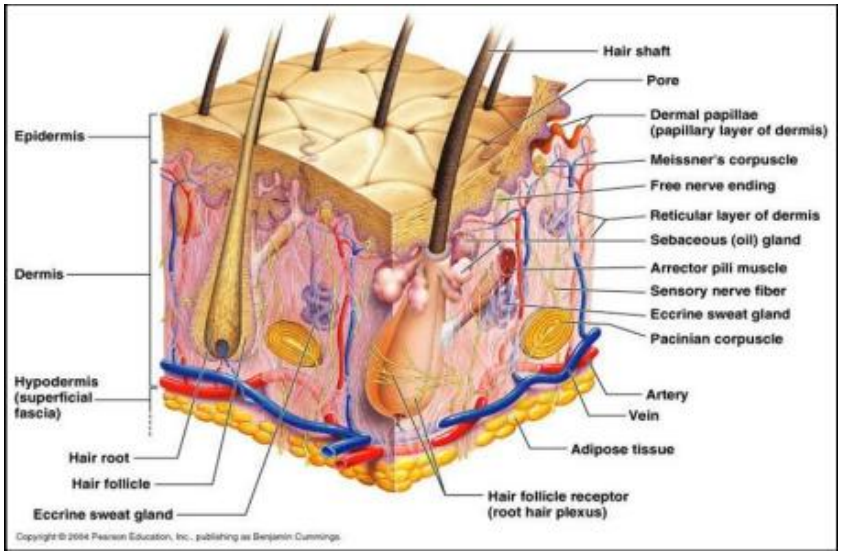

Fig 1: Structure of the skin

Standard methods were used to perform microscopic analysis of selected plant parts. Free hand sectioning was used to cut sections. Some thinnest sections were selected and few drops of chloral hydrate solution were added in the form of clearing agent.
So as to make the sections transparent, the mount was heated slowly. To avoid the crystallization of chloral hydrate, some drops of glycerin were also added. A microscope was used for the observation of the mount. A section with phloroglucinol solution was kept on slide and dried for about 5 minutes.

Macroscopic evaluation of plants
The following table shows the Macroscopic/ organoleptic characteristics of plants.

Table 1: Macroscopic/ organoleptic characteristics of plants

PLANT	COLOR	ODOR	TASTE	SHAPE
***Ocimum tenuiflorum* Linn (Leaves)**	Green to dark green	Strong and aromatic	Characteristic and aromatic	Elliptic oblong, entire or serrate
***Citrus reticulata* Blanco (Peel)**	Green to orange	Strong and aromatic	Sour, bitter	Peels irregular in shape. Dots are oil glands
***Citrus aurantifolia* Swingle (Peel)**	Green to yellow	Strong and aromatic	Sour, bitter	Peels irregular in shape. Dots are oil glands
***Butea monosperma* Lam (Seeds)**	Reddish brown	No characteristic odor	No characteristic Taste	Flat and uniform
***Vitis vinifera* Linn (Seeds)**	Dark brown	Strong and aromatic	Pungent, bitter	Ovoid shape

In TLC-Bioautography procedure, TLC plates are run in duplicate. First for the view at 254nm and 366 nm and second plate was used for bioautography. TLC plate was overlayed with seeded culture and incubated. At last, MTT solution (2.5 mg/ ml) was added and observed.

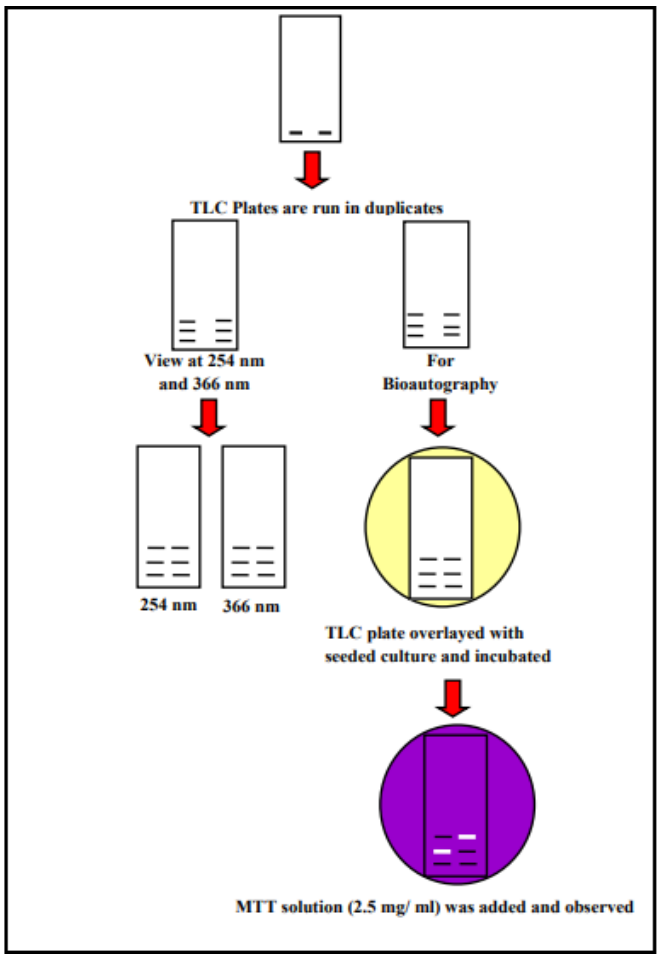

Fig 2: Schematic representation of TLC-Bioautography procedure

Results and Discussion

TLC analysis was performed for the separation of bioactive compounds from crude extracts. TLC profile of Cold alcoholic extract of Ocimum tenuiflorum Linn (OT CAE) at 254 nm, 366 nm and after derivatisation with anisaldehyde sulphuric acid.

TLC profile of Cold alcoholic extract of Citrus reticulata Blanco (CR CAE) showed different patterns at wavelength 254 nm, 366 nm and after derivatisation with anisaldehyde sulphuric acid reagent.

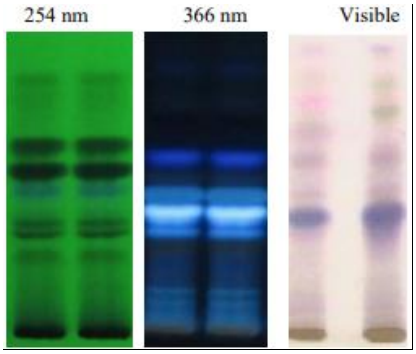

Fig 3: TLC profiles of OT CAE at 254 nm, 366 nm and after dervatization with anisaldehyde sulphuric acid

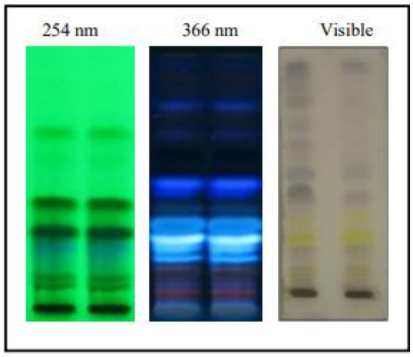

Fig 4: TLC profiles of CR CAE at 254 nm, 366 nm and after dervatization with anisaldehyde sulphuric acid

To locate the major active compounds responsible for the antimicrobial activity in crude plant extracts of Ocimum tenuiflorum Linn and Citrus reticulata Blanco, TLCbioautography was performed against acne inducing bacteria i.e. S. aureus, S. epidermidis and P. acnes. The clear zones of inhibition were observed around well resolved TLC bands against dark purple background. Tetrazolium salt (MTT) was used for visualization of chromatogram. The viable organisms reduced the yellow tetrazolium salt to bluish formazan, so the antimicrobial active compounds appeared as clear zones against darker background.

Table 2: Rf values of OT CAE after derivatization with anisaldehyde sulphuric acid

R_f values	Color of the band
0.04	Brown
0.08	Violet
0.14	Violet
0.17	Green
0.21	Black
0.28	Violet
0.30	Pink
0.32	Green
0.35	Brown
0.42	Violet
0.50	Violet
0.57	Black
0.58	Green
0.62	Violet
0.67	Violet
0.74	Brown black

Table 3: Rf values of CR CAE after derivatization with anisaldehyde sulphuric acid

R_f values	Color of the band
0.04	Green
0.12	Yellow
0.14	Green
0.18	Green
0.22	Green
0.28	Brown
0.32	Yellow
0.38	Yellow
0.45	Violet
0.48	Green
0.58	Violet
0.65	Violet
0.81	Green
0.91	Violet
0.95	Green

Qualitative phytochemical analysis revealed the presence of carbohydrates, amio acids and flavonoids in all plant extracts. Total phenolic and flavonoid contents were estimated and it was found that OT HAE exhibited highest phenolic and flavonoid contents among all extracts. In order to obtain most efficacious extracts for anti-acne and anti-aging activities, screening of all plant extracts was performed by antioxidant and antimicrobial assay.

Conclusion

The selected plant materials were initially studied for pharmacognostic characteristics including macroscopic and microscopic characteristics, physicochemical parameters including ash values and extractive values. Extraction of each plant was performed by Soxhlet method and maceration, thus two extracts i.e. hot alcoholic extract (HAE) and cold alcoholic extract (CAE) were obtained for each plant. Yields were calculated for obtained extracts.

In conclusion, the extracts of Ocimum tenuiflorum Linn and Citrus reticulata Blanco were found to be useful for skin care purpose, as anti-acne and anti-aging agents. Rapid and simple TLC-Bioautography-GC-MS method was developed for isolation and identification of phytoconstituents responsible for antimicrobial activity.

References

1. Abubakar EM. Antibacterial activity of crude extracts of Euphorbia hirta against some bacteria associated with enteric infections. Journal of Medicinal Plants Research. 2011; 3(7):498-505.
2. Adityan B, Thappa DM. Profile of acne vulgaris--a hospital-based study from South India. Indian journal of dermatology, venereology and leprology 2013; 75(3):272-278.
3. Khan Z. Antibacterial activity of crude extracts of different parts of Butea monosperma (Lamk.) Taub. Biologia, 2012.58(1&2), pp.167–173.
4. Aibinu I. *et al.* Evaluation of the antimicrobial properties of different parts of Citrus aurantifolia (lime fruit) as used locally. African journal of traditional, complementary, and alternative medicines 2012; 4(2):185–190.
5. Okoh AI. In vitro antibacterial activities of crude extracts of the leaves of Helichrysum longifolium in combination with selected antibiotics. African Journal of Pharmacy and Pharmacology 2013; 3(6):293-300.
6. Rafiquzzaman M. Review on in vivo and in vitro methods evaluation of antioxidant activity. Saudi Pharmaceutical Journal. 2013; 21(2):143-152.
7. Alam S. *et al.* Phytochemical investigation of the seeds of Butea monosperma. Chemistry of Natural Compounds 2010; 46(1):44–48.
8. Dixit S. In vitro antimicrobial activity of flavanoids of Ocimum sanctum with synergistic effect of their combined form. Asian Pacific Journal of Tropical Disease. 2012; 2:S396–S398.