



JAUNDICE AND ITS TRADITIONAL CURE IN ARUNACHAL PRADESH

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ABSTRACT

Jaundice is a highly prevalent disease in Arunachal Pradesh and adjoining states of India which is generally treated by local traditional healers belonging to 26 communities of the state. As per records published in different adjoining states over 105 plants are used for the cure of jaundice. Most of them are also available in Arunachal Pradesh and are also use by local traditional healers. The papers represents the plants used for the cure and management of jaundice by local traditional healers of 26 major communities of Arunachal Pradesh as well as the plants used for the same practice in other adjoining parts of the Country which are distributed or cultivated in Arunachal Pradesh.

KEYWORDS: Jaundice, *Andrographis paniculata*, *Coptis teeta*, *Picrorrhiza kurrooa*

INTRODUCTION

Jaundice is a common liver disorder in human body caused mainly due to infection caused by Virus namely Hepatitis A to Hepatitis G and non A to Non G Hepatitis Virus, death rate during Hepatitis B infection is a major effect which has now become a Worldwide problem. Different terminology had been used for different kind of jaundice like Infective Hepatitis, Koshthashashritra Kamala, Jaundice occurs when there is too much bilirubin is produced for the liver to remove from blood i.e. patient with hemolytic anemia, having rapid destruction of their red blood cells, that releases large amount of bilirubin into the blood or a defect in liver that prevents bilirubin from being removed from the blood converted to bilirubin/ glucuronic acid (conjugated) or secreted in bile cause symptoms of jaundice.

Blockage of the bile ducts that decrease the flow of bile and bilirubin from the liver into the intestine. The decrease conjugation secretion, or flow of bile that can result in jaundice is referred to as cholestasis, however, cholestasis does not always results jaundice. Jaundice besides viral infection, is being also a symptom of other disorders like malaria, diabetes, loss of appetite etc. which is manageable through herbal treatment, controlling the major cause of the disease and improving food methodology like taking up diet related with appetite improving etc. In different part of the world in distant village pockets large number of traditional healers manages jaundice by using herbal medicines. Seeking out the widest problem in Arunachal Pradesh, authors have made continuous survey of traditional healers engaged in treating jaundice and related diseases and finding out causes of jaundice in the state. Causes of spread of jaundice in Arunachal Pradesh are food habits and alcoholic habit.

In different part of world including India numerous drugs are used for preventive and protective measures of jaundice.¹⁻²⁰

Clinical trials on role of *Andrographis paniculata*, *Picrorrhiza kurrooa*, have been worked out.²¹⁻²³ Work on effect of *Terminalia chebula* on various hepatic disorders has been studied by Sharma et al.²⁴

MATERIAL AND METHODS

Methodology used in the work is selection of traditional healers in over 25 tribal communities of Arunachal Pradesh settled in varying climatic conditions of tropical, subtropical, temperate and alpine hills. Deep interaction with these

healers in frequent sharing of experiences from time to time in a period of 20 years, their methodology of practices, administering food control, suggesting change in living style, recording plants used in treatment, matching with plants described in literature used by healers in other part of the Country, suggesting them to undertake those plants also which are described in other part of the Country as per availability in their surroundings under exchange of knowledge through which traditional healers come forward to expose their secrets. Each information was recorded with permanent Herbarium specimens prepared by using Jain methodology of Herbarium preparation. Separate vouchers were maintained for those plants which are widely used in various treatments. Confirmation of identity of plants was made by matching them with authentic samples of Botanical Survey of India, Arunachal Field Station, Itanagar. Voucher specimens were deposited in the Herbarium of Ayurveda Regional Research Institute Itanagar (Acronym- ARRI). Recorded plants were divided into therapeutic plants, dietary plants and health improving plants.

OBSERVATION

Details of records of plants were expressed as follows with details of their botanical names, family, vernacular name, parts used and method of use. Traditional healers were using fresh parts or dried parts from crude drug shops in adjoining markets of Assam like Digboi, Dibrugarh, Harmutty, Jorhat, North Lakhimpur, Tinsukia etc. Description of plants in use represents botanical name, followed by family, vernacular name and use and mode of preparations of plant.

Abrus precatorius L. (Fabaceae), Gunja/ Ratti, Seeds are used in cough, colds and colic complaints, for gonorrhoea, jaundice and haemoglobin uric bile.

Adhatoda zeylanica Nees (Acanthaceae), Vasaka, Fresh leaf juice is administered for one month.

Aloe barbadensis L. Liliaceae, Ghritkumari, Fresh leaf juice is administered for one month.

Alstonia scholaris R. Br. (Apocynaceae), Saptaparna/ Sitan gachha, Pieces of bark is worn in a garland for curing jaundice.

Andrographis paniculata (Burm. f.) Wall. ex Nees (Acanthaceae), Kalmegha/ Chirata,

Leaves and young twigs are smashed and made paste; 20-30 gms paste taken three times daily after meal for 2-3 weeks to cure.

Ardisia paniculata Roxb. (Myrsinaceae), Root in combination with those of *Smilax ovalifolia* and *Bridelia tomentosa* are crushed and boiled in water and drunk @ 1 cup (100 ml) twice daily for jaundice.

Argemone mexicana L. (Papaveraceae), Bhand/ Satyanasi, Decoction of leaf is used in jaundice.

Asplenium adiantoides C. Chr. (Aspleniaceae), Plant decoction is used in jaundice.

Asteracantha longifolia Nees *Hygrophylla auriculata*, Acanthaceae, Talmakhana, Plant extract and decoction of leaves is used in jaundice.

Averrhoa carambola L. (Averrhoaceae), Kamrakh, 3-4 slices of the fruit is taken for jaundice or juice of crushed fruit is taken orally for jaundice @ 1/2-1 cup (50 ml-100ml) 3 times daily.

Benincasa hispida (Thunb.) Cogn. (Cucurbitaceae), Petha/ Chaulkumhra, Boiled extract of fruit is given in stomach ulcers and jaundice.

Berberis aristata DC. (Berberidaceae), Daru Haridra, Root and stem decoction is taken orally.

B. wallichiana DC. Root and stem decoction used orally.

Bixa orellana L. (Bixaceae), Sinduriya, Leaves are useful in jaundice.

Boerhaavia diffusa L. (Nyctaginaceae), Punarnava, Root is used in various ways for jaundice.

Bridelia stipularis (L.) Bl. (Euphorbiaceae), Leaves are used for jaundice.

Bridelia monoica (Lour.) Mec. (Euphorbiaceae), Karagnalia, The root in combination with the root of *Smilax ovalifolia* and *Ardisia paniculata* are rubbed on grindstone and the paste is collected in a cup of water. The mixture is boiled and taken orally.

Capsicum annum L. (Solanaceae), Mircha, 10-15 gms splitted fruit without seed are kept in 100-150 ml. water for 3-4 hours and after removing the fruit, water is taken against orally and also used as mentioned under *Croton oblongifolius*.

Carthamus tinctorius L. (Asteraceae), Fruit juice is used for cure of jaundice.

Cissampelos pareira L. (Menispermaceae), Ambashtha/ Patha, Root is placed in water for overnight and the extract is taken orally.

Citrus aurantifolia (Christm.) Wingle (Rutaceae), Tenga/ Nimbu, Fruit juice is used orally.

C. medica L., Nimbu, Fruit juice is taken orally.

C. reticulata L. Kamla, Santara; Fruit taken during jaundice.

C. sinensis (L.) Osbeck. Mousammi, Fruit administered during jaundice.

Clerodendrum indicum (L.) A.Kuntze (Verbenaceae), Vanabhenda, Root is soaked in water for overnight and fresh extract is taken orally for 7 – 15 days.

C. serratum Spreng., Bharangi, Leaf juice is administered.

Coptis teeta Wall. (Ranunculaceae), Mishmi teeta, Root is soaked in water for overnight and fresh extract is taken orally for 7 – 15 days.

Coriandrum sativum L. (Apiaceae), Dhanyaka/ Dhaniya, Leaf and fruits are taken orally during jaundice.

Costus speciosus (Koenig ex. Retz.) Sm. (Costaceae), Kebuk/ Keun, Fresh juice of rhizome is taken orally.

Croton oblongifolius Roxb. *C. roxberghii* Balek, (Euphorbiaceae), Stem bark with *Prunus triflora* and root of *Capsicum annum* and rhizome of *Curcuma longa* and ripened fruits of *Averrhoa carambola* are crushed together and boiled in water; extract is taken thrice daily to cure jaundice.

Cucumis sativus L. (Cucurbitaceae), Kheera, Fresh fruit is administered during jaundice.

Curculigo orchioides Gaertn. (Hypoxidaceae), Kali Musali, Rhizome is prescribed in piles, jaundice, asthma, diarrhoea and gonorrhoea, considered demulcent tonic; used as poultice for itches and skin diseases.

Curcuma longa L. syn. *Curcuma domestica* Valecton (Zingiberaceae), Haridra/ Haldi, 40-50 gms rhizome pounded and made extract; extract is mixed with fruits of *Piper longum* L. and taken daily for 20-25 days during jaundice.

C. zedoaria Rosc., Kachura, Rhizome powder or extract is taken orally.

Cuscuta reflexa Roxb. (Convolvulaceae), Amarvela, Plant juice is taken for 6-7 days.

Desmodium laxiflorum DC. (Fabaceae), 50-100 gms roots are crushed and boiled in water.

Desmostachya bipinnata (L.) Stapf. (Poaceae), Kusha, 50 ml. extract mixing with powder of three fruits of *Piper longum* is taken daily for 10-15 days to cure jaundice.

Eclipta prostrata L. (Asteraceae), Bhringaraja, 20-30 gms paste of the whole plant mixed with salt is taken once daily for 15-20 days to cure jaundice.

Elaeagnus caudata Schlecht. (Elaeagnaceae), 200-250 gms stem bark and fruit of the species are pounded and boiled in water; 100 ml. extract mixed with *Piper longum* is taken daily for 2-3 weeks to cure jaundice and other liver troubles.

Emblica officinalis Gaertn. (Euphorbiaceae), Amlaki, 100-150 gm pith of young branches are boiled in cow milk and made extract. 100 gm of extract is taken one time daily in the early morning for 20 days to get relief from jaundice.

Erythrina variegata, (Fabaceae), Mura, Stem bark is used for jaundice.

Euphorbia ligularia Roxb. (Euphorbiaceae), Snuhi, Fruits are given in diarrhoea, dysentery, haemorrhage, anaemia, jaundice etc.

Exacum tetragonum Roxb. (Gentianaceae), Chireta, Plant juice or decoction is used thrice a day as substitute for *Swertia chirayita*.

Ficus semicordata Buch. Ham. (Moraceae), Padhotado, Leaf decoction in combination with that of *Byttneria pilosa* Roxb. and *Phyllanthus fraternus* and the bark of *Callicarpa arborea* is taken orally for get relief from jaundice.

Garcinia pedunculata Roxb. (Clusiaceae), Thekera, Young fruits are prescribed in jaundice besides use as stimulant, emetic diuretic pulmonary and renal troubles.

Gardenia jasminoides Ellis (Rubiaceae), Gandharaja, Plant is considered an indigenous medicine for cough, rheumatism, anemia and jaundice.

Glycosmis pentaphylla (Retz.) Correa (Rubiaceae), Boiled extract of plant is administered in jaundice.

Hedyotis auricularia L. (Rubiaceae), Decoction of plant is used for 20-25 days or till complete relief.

H. corymbosa (L.) Lamk. 40 gms paste of whole plant are taken daily for 15-20 days to cure jaundice.

H. diffusa Willd., Decoction of plant is given in intermittent fever and jaundice.

Homalomena aromatica Schott. (Araceae), Sugandhamantri, Rhizome juice is taken orally in jaundice and other liver complaints.

Houttuynia cordata Thunb. (Saururuaceae), Masundhuri, 3-4 fresh leaves are eaten twice daily in case of jaundice. it is also used as condiment. Plant extract is also used for stomach complaints and jaundice

Hydrocotyle rotundifolia Roxb. (Apiaceae), Pounded whole plant is taken orally.

Hygrophilla salicifolia Nees (Acanthaceae), Talmakhana, Minjonjo, Pounded whole plant is taken orally for stomach complaints and jaundice.

Ipomoea aquatica Forsk. (Convolvulaceae), Kalmi, Arial part is taken orally for jaundice cure.

Inula cappa (Buch- Ham.ex D. Don) DC. (Asteraceae), The leaves are crushed with those of *Plantago asiatica* and *Lobelia angulata* and the juice is taken orally 10 ml. twice a day.

Lagenaria siceraria (Mol.) Standl. (Cucurbitaceae), Lao, Lauki, Plant decoction mixed with sugar is taken as protective agent during jaundice.

Lagerstroemia speciosa (L.) Pers. (Lythraceae), Ajar, Decoction of root bark is given in jaundice and enlargement of spleen.

L. parviflora Roxb., Ajar, Decoction of root bark is given in jaundice and enlargement of spleen.

Lawsonia innermia L. (Lythraceae), Menhadi/ Jetuka, Stem bark is pounded in water and taken in jaundice and spleen enlargement.

Leucas plukenetii (Roth.) Spreng. syn. *L. aspera* Spr. (Lamiaceae), Tumakusir, 30-40 gms paste of the whole plant is taken three times in meal for 2-3 weeks to cure jaundice.

Ludwigia adscendens (L.) Hara syn. *Jussiaea repens* L., Oenagraceae, Talijuri, 200-300 gms of young twigs are smashed and boiled in water; 100 ml extract is taken orally for 15-20 days to cure jaundice.

Litsea monopetala (Roxb.) Pers. (Lauraceae), Rogu, The stem bark is taken 2 times a day for one week orally to cure jaundice associated with hepatitis as follows:

The bark is ground with the bark of *Vitex peduncularis*, 3 leaves of *Piper betel*, 4 clones of *Allium sativa*, 2-3 grains of *Piper nigrum* (Golmarich) and added 2 spoonfuls (10 gms) of sugar. The paste is made into pills and taken orally.

Mahonia nepaulensis DC. (Berberidaceae), Root juice is pounded and 2 tea spoon juice is given in jaundice and other liver disorders.

Mentha arvensis L., Lamiaceae, Pudina, Plant extract is used during jaundice.

Momordica charantia L. (Cucurbitaceae), Karela, The leaves are boiled with that of *Benincasa hispida* (Mainpawl) in the proportion of 5:100 gms, and the extract is taken orally against jaundice.

Morus alba L. (Moraceae), Tuda, Root decoction is taken orally for 10-12 days for cure of jaundice.

Mussaenda glabra Vahl. (Rubiaceae), Juice of fresh leaves is good for jaundice.

Mussaenda frondosa L., Juice of fresh leaves is good for jaundice. Root decoction is taken orally for 10-12 days. 100 gms. pounded roots are boiled in water and made extract, 100ml. extract is orally taken daily for 15 days to reduce jaundice.

Nymphoides indicum (Lour.) O. Kuntze (Menyanthaceae), Baan, Plant is used as substitute for Chiretta in fever and jaundice.

Nymphoides hydrophyllum (Lour.) O.Kuntze, Plant is used as substitute for Chiraitta in fever and jaundice.

N. indica Kuntze. Plant is used as substitute for Chiraitta in fever and jaundice.

Oroxylum indicum (L.) Vent. (Bignoniaceae), Shyonaka/ Bhatgila, Half kg. Crushed bark is boiled in water and 100 ml. extract is taken thrice daily for 2-3 weeks to cure jaundice.

Oxystelma secamone (L.) Karst. *Sarcostema esculentum* (Asclepiadaceae), Root are useful in jaundice. Latex is used as wash for ulcers.

Passiflora edulis Sims. (Pascifloraceae), Passion fruit, Fruit eaten during jaundice.

Pavetta indica L. (Rubiaceae), Roots are used as tonic, purgative and diuretic, used for visceral obstructions, urinary diseases, jaundice and dropsically affection.

Peltigera canina Willd. (Peltigeraceae), Plant juice is recommended for cure of jaundice and other liver disorders.

Phyllanthes amaras Schum. (Euphorbiaceae), Bhumymlaki, Plant juice as well as powder of dried plant is taken orally with water for 10-12 days.

Picrorhiza kurrooa Benth. (Scrophulariaceae), Katuki, Root extract/ decoction is used in jaundice for 12 days.

Picrorrhiza scrophulariiflora Pennell Katuki bheda, Root extract/ decoction is used in jaundice just like *P. kurrooa* as substitute.

Piper caninum Blume. (Piperaceae), Plant extract is given in jaundice.

P. longum L. Pippali, Fruits powdered and mixed with decoction of 200-300 gms of stem and root bark of *Xeromphis spinosa* is given for 2-3 weeks.

Plumbago indica L. (Plumbaginaceae). Chitraka, Root is used.

Polygala glabrum Willd. Polygalaceae, Maradu, Stem decoction is used in jaundice and related disorders.

Polygonum glabrum Willd. (Polygonaceae), Bihagni, Bhilamgori, Root juice is given in jaundice and other disorders.

Prunus triflora Roxb. (Rosaceae), Ripened fruits are useful for jaundice.

Psidium guajava L. (Myrtaceae), Madhurika, Amrud, Juice from one fruit, 1/4 liter goat milk and root of *Sida cordifolia* are mixed together thoroughly. The preparation is administered orally. 3 doses is sufficient and will result in disappearance of symptoms like clear urine and removal of yellowness from the eyes of the patients.

Punica granatum L. (Punicaceae), Dadima, Anar, Powder of entire fruit is taken during jaundice.

Saccharum officinarum L. (Poaceae), Ganna Suga cane, Cane juice is taken during jaundice.

Sida cordifolia L. (Malvaceae), Bariyara, Used as described for *Psidium guajava*.

S. rhombifolia L. (Malvaceae), Bariyara, Root of *S. rhombifolia*, *Urena lobata*, *Elaeagnus caudata* and stem bark and root of *Bixa orellana* and *Randia dumetorum* are pounded together and boiled in water; 100 ml. extract is taken three times daily to cure jaundice.

Smilax aspera L. (Smilacaceae), Ramdatun, Chobchini, Pounded root is given in jaundice.

S. glabra Roxb., Chobchini, Root juice is taken till complete relief.

S. ovalifolia Roxb., Ramdatun, The roots with those of *Bridelia tomentosa* and *S. perfoliata* Lour. Decoction is administered till complete relief.

S. wightii DC., Chobchini, Root decoction is administered till complete relief.

Solanum nigrum L. (Solanaceae), Kakamachi, Plant juice is administered with juice of equal quantity of *Phyllanthus amarus* and *Aloe barbadensis*.

Solena heterophylla Lour. syn. *Melothria heterophylla* (Lour.) Cogn. (Cucurbitaceae), Amtamoola, Fresh roots inhaled reduce jaundice, also the fresh roots are cut into pieces and tied with root of *Plumbago indica* and rhizome of *Curcuma longa* then worn around neck for 15 to 20 days to reduce jaundice.

Sonchus arvensis L. syn *S. wightianus* DC. (Asteraceae), Dudoriban, Root juice in water is administered.

Spinacea oleracea L. (Spinach). (Chenopodiaceae), Palangshak, Seeds boiled in water and extract is taken for 7-10 days.

Swertia chirayita (Roxb.) ex. Flem.) Karsten. (Gentianaceae), Chireta, Plant juice or decoction after boiling in water for 3-4 hours is taken orally one teaspoon full, thrice a day for 7-8 days.

S. ciliata Burt. (Gentianaceae), Chireta, Plant juice or decoction after boiling in water for 3-4 hours is taken orally one teaspoon full, thrice a day for 7-8 days.

Tabernaemontana divaricata (L.) R. Br. (Apocynaceae), 100-200 gms roots are crushed and boiled in water; extract is taken three times to cure jaundice.

Taraxacum officinale Wigg. (Asteraceae), It is used as liver tonic.

Terminalia chebula Retz. (Combretaceae), Haritak, Dried fruit is taken orally.

T. citrina Roxb. Haritaki, Hilika, Fresh and dried fruits are taken orally.

Thalictrum foliolosum DC. (Ranunculaceae), Mamira, Used as tonic during jaundice and other liver disorders.

Tinospora cordifolia (Willd.) Miers, (Menispermaceae), Amrita, Guduchi, Fresh stem juice 10 ml. or plant soaked in water for overnight taken twice a day for 7 days.

Urena lobata L. (Malvaceae), Vanabhenda, Root used as liver tonic.

Xeromphis spinosa (Thunb.) Keay (Rubiaceae), Decoction of 200-300 gms. of stem and root bark of the species is mixed with *Piper longum* powder and taken thrice daily for 2-3 weeks to relieve jaundice.

Zehneria scabra (L.f.) Sond. Syn. *Melothria purpusilla* (Blume) Cogne, (Cucurbitaceae),

The plant is useful in the treatment of jaundice and kidney affection other than stone.

DISCUSSION

Jaundice is a kind of infection cum disorder manageable through herbal medicines along with supplement of enzymes and liver tonic. Accordingly, maximum number of plants was found useful for the cure of jaundice. As per statistical analysis of the plants used in jaundice cure and management 106 plants were used in its cure out of which maximum number goes to family Rubiaceae with 8 representatives followed by Cucurbitaceae with 7 species, Euphorbiaceae and Gentianaceae with 5 species, Asteraceae, Rutaceae,

Smilacaceae and Solanaceae with 5 species and Acanthaceae with 4 species of plants. Other families represent only 3, 2 or only 1 representative. Families of Berberidaceae, Fabaceae, Lythraceae, and Malvaceae represents 3 species, Apocynaceae, Verbenaceae, Ranunculaceae, Apiaceae, Zingiberaceae, Convolvulaceae, Poaceae, Moraceae, Scrophulariaceae, Piperaceae, Combretaceae and Menispermaceae are representing 2 species whereas single species are Aspleniaceae, Araceae, Liliaceae, Apocynaceae, Asclepiadaceae, Avertroaceae, Bignoniaceae, Bixaceae, Chenopodiaceae, Costaceae, Clusiaceae, Lauraceae, Myrtaceae, Nyctaginaceae, Oenagraceae, Papaveraceae, Pascifloraceae, Peltigeraceae, Plumbaginaceae, Polygonaceae, Punicaceae, and Saururaceae.

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