



Journal of Pharmacognosy and Phytochemistry

Plant based native therapy for the treatment of Kidney stones in Aurangabad (M.S)

I. H. Zahid¹, A. S. Bawazir², Rafiuddin Naser^{3*}

1. Department of Environment Science, Vijay Rural Engineering College, Jawaharlal Nehru Technical University, Nizamabad, Andhra Pradesh, India
2. Department of Pharmacognosy, Y.B.Chavan, College of Pharmacy, Dr. Rafiq Zakaria Campus, Rauza Bagh, Post Box No.-33, Aurangabad.(M.S.) 431001. India
3. Assistant Professor in Botany, Maulana Azad College, Dr. Rafiq Zakaria Campus, Rauza Bagh, Post Box No.-27,Aurangabad.(M.S.) 431001. India [E-mail: rafiuddinnaser@rediffmail.com, Tel: +91-9422211634]

Plants have been the major source of therapeutic agents for curing the human diseases. Tribals as well as the rural people depend for all their medicinal and other necessities on the surrounding plant wealth. The urinary bladder or kidney stone has posed a challenge to the medicinal world. The disease is found occurring in both young and old persons. Even the advanced method and technology for the treatment of urinary calculi is available in the Allopathic system of medicine, it has own limitation as in some cases, several side effects as even periodical reoccurrence of stones in a few. The alternative system of medicine which usually employs natural sources-green medicine with a minimum or no side effects. During the ethnobotanical survey of plants from Aurangabad region, a few medicinal plants used in the treatment of kidney stones have been recorded which are discussed in this paper

Keyword: Therapeutic Agents, Kidney Stones, Allopathic System, Aurangabad Region.

1. Introduction

Kidney acts as a filter for blood, removing waste products from the body and helping to regulate the levels of chemicals which are important for body functions. The urine drains from the kidney into the bladder through a narrow tube called the ureter. When the bladder fills and there is an urge to urinate, the bladder empties through the urethra, a much wider tube than the ureter.

In some people, the urine chemicals crystallize and form the beginning, or a nidus of a kidney stone. These stones are very tiny when they form, smaller than a grain of sand but gradually they can grow to a quarter inch or larger. The size of the stone doesn't matter as much as where it is located.

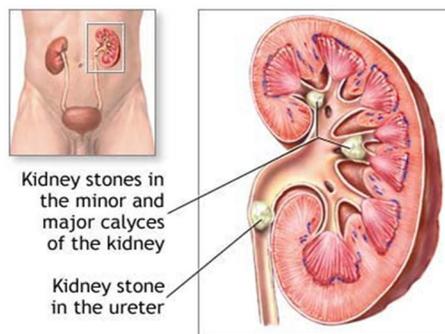


Fig 1: Diagram Showing Kidney Stones

When the stone sits in the kidney, it rarely causes problems, but when it fall into the ureter, it acts like a dam. Kidney continues to function and make urine, which backs up behind the stone,

stretching the kidney. This pressure build up causes the pain of a kidney stone but it also helps to push the stone along the course of the ureter. When the stone enters the bladder, the obstruction in the ureter is relieved and the symptoms of kidney stone are resolved.

Perusal of literature revealed that though a lot of work has been done on the medicinal plants (Chopra *et al.*, 1956, 1965; Dastur, 1962, Dey, 1980, Jain, 1996; Kirtikar and Basu, 1935, Natesh and Mohan Ram, 1999 Sivarajan and Indira Balachandran, 1994). Naik (1998) has attempted the study of medicinal plants of Marathwada. Naser (2002), Naser and Vaikos(2005) has described some plants for human diseases. No account on this aspect pertaining to Aurangabad is available. The present study has been undertaken with the aim of recording of various plants used for treatment of kidney stones by the tribals and non tribals.

2. Study Area

Aurangabad district, a soul of Marathwada region, from the part of Maharashtra state. It is situated in the upper Godavari basin to the extreme north west of the Marathwada. In general, the district slops down towards the south and southeast. The district lies, between the parallels of 19° 20' and 20° 40' 10" north and between 70° 40' and 75° 50' east. The general elevation above the sea level varies between 665 and 735 meters on the north and between 565 and 635 metres towards south. Aurangabad a major district of Marathwada on Deccan plateau, has

440 sq. km forest cover, that is almost 4.35 percentage of the districts total area. The agriculture occupies considerable land. Inhabitants in these areas particularly the rural and tribal people still dwell in and depend on the agricultural and remaining piece of surrounding forests for their needs like shelter, food, fuel, fodder, medicine, animal treatment and farm implements.

The tribal people and ethnic races have developed their own cultures customs, religions rites, legends and myth, folk tales, songs, food and medicinal practices. Many wild and cultivated plants play a very important and vital role among these cultures and these relationships have evolved over generations of experience and practices. The modern civilization which is penetrating into most of the region of the district still holds primitive societies. The consequent divorcement of aboriginal people from dependence upon their vegetal environment for the necessities of life has been set in motion resulting in the disintegration of knowledge of plants and their properties. There appears a steady decline in human expertise capable of recognizing the medicinal plants.

During the study period from December 2008 to July, 2009 several botanical tours have been conducted in various areas of the district in different seasons. Emphasis has been given to visit the area where more and diverse tribal belts and rural people inhabiting different villages are studied.



Fig 2: Maps of India, Maharashtra and Aurangabad

3. Materials and Methods

The methodology of collection of voucher specimens, their preservation in herbaria and technique for the collection of ethnomedicinal information is adopted for the study as recommended by Jain (1989).

During this investigation, ethano-medico botanical data was gathered by interviewing tribals, Bhagats (Tribal vaidyas) Vaidyas, Hakims, village men, even farmers, milkman, senior citizens, knowledgeable man and practitioners. The information was verified by repeated enquiries in different areas of the district. The plants were identified with the help of related literature. The voucher specimen are collected. These specimens are preserved and made into herbarium specimens by conventional method, giving suitable voucher specimen numbers and deposited in the herbaria of Department of Botany, Maulana Azad College, Aurangabad.

The data collected on a particular ailment or species were verified by discussing about these aspects with other tribal facilities. This helped to document quite reliable information not only on the species but also dosages. During the dialogues, care was taken not to contradict with the informants on any point.

4. Preservation of Data

While writing the text, plants were mentioned alphabetically followed by family within parenthesis and vernacular name or local name, voucher specimen number. Followed by the utility of plants for kidney treatment and method of administered doses are narrated.

Biophytum sensitivum. (L.) Dc. (Oxalidaceae), Lajalu, Jharera MACH0057

- Decoction of root is given 3 times a day for removal of kidney stone (Lithiasis).
- Fresh leaves decoction is taken in morning and evening.

Bombax ceiba L (*Salmalia malabaricum* Dc.) (Bombacaceae), Kate sawar MACH0059

- Dry fruit is used in the form of extract or powder before breakfast daily.
- Bark powder 5gms 3 times a day is useful for urination.

Butea monosperma (Lamk.) Taub. (Fabaceae), Palas, MACH0063

- Leaves juice or decoction is useful as per requirement.
- Takes seed powder in one teaspoon after meals

Celastrus paniculata Willd. (Celastraceae), Mal kanguni, MACH0087

- Fresh leaves crushed and mixed with curd, gives before breakfast-no intake except water up to 3pm.
- Releases stone in the form of powder.
- ***Celosia argentea*** L. Var. *argentea* L.Sp. (Amaranthaceae), Kurdu, MACH0088
- Root decoction if taken in morning gives good results.
- Seed powder taken in a gap of 4 hours, gives very good results.

Crateva adansonii Dc.Subsp. *odora*(Buch. Ham.) (Capparaceae), Waiwarn MACH0301

- Bark is used in the form of powder or decoction-before breakfast.

Drimia indica (Roxb.)Jessop. (*Urginea indica*) (Roxb.) (Liliaceae), Jungli piyaz. MACH0302

- Bulb extract is useful in morning before breakfast.

Hemidesmus indicus (L.) (Periplocaceae), Anant mul. MACH0167

- Gives root powder daily morning, afternoon and evening.
- Leaf decoction is used in morning and evening.

Hollarrhena pubescens. (Buch. Ham).Wall. ex. G. Don (Apocynaceae), Pandhara kuda, Indrajaw. MACH0172

- Gives Internal bark powder one teaspoon in morning and evening.
- Stem powder used before meals.
- Seed powder takes before breakfast.

Kalanchoe pinnata (Lamk.) (*Bryophyllum calycinum*) (Craussulaceae), Panphuti. MACH0303

- Gives Fresh leaves juice at any time.

Macratyloma uniflora (Lamk.) verde. (*Dolichos biflorus* Linn.) (Fabaceae), Kulthi, Hulge, Kulith. MACH0304

- Fruits boiled in water and cold water gives to patient thrice a day.

Mentha spicata L. (Lamiaceae), Pudina. MACH0305

- Fresh leaves should be taken with salt after a particular intervals throughout the day.

Mimosa pudica L. (Mimosaceae), Lajalu, Lajwanti MACH0198

- Leaf juice is added in tea and used time to time.
- Root powder gives before breakfast.

Ocimum tenuiflorum L. (Lamiaceae), Tulsi, Tulas. MACH0209

- Entire plant should burn, ash of the plant mixed with water and given thrice a day.

Punica granatum L. (Punciaceae), Anar, Dalimb. MACH0306

- Seed juice is given before breakfast.

Raphanus sativus L. (Brassicaceae), Mula. MACH0307

- Root juice is given after meals.
- Leaf juice is given before breakfast- after this no intake up to lunch.
- Seed powder is useful before breakfast.

Tamarindus indica L. (Caesalpiniaceae), Imli, Chinch. MACH0237

- Dry exocarp of the pod is boiled in the water, this filtered water is given twice a day.

Tephrosia purpurea L. (Fabaceae), Sharapunkha, Unhali MACH0236

- Root powder or juice is useful if taken morning and evening.
- Gives leaf decoction-one glass before breakfast .
- Entire plant boiled and juice is given after particular intervals.

Terminalia arjuna (Roxb.) Wt. (Combretaceae), Arjun sadoda. MACH0237

- Gives bark powder after breakfast, lunch and dinner.

Tribulus terrestris L. (Zygophyllaceae), Goakru, Sarata. MACH0308

- Leaves decoction is taken in morning and evening.
- Fruit juice or extract is used in morning and evening.

5. Mixture

- Anantmul (*Hemidesmus indicus*) + Goakru (*Tribulus terrestris*) + Kurdu (*Celosia argentea*) + Unhali (*Tephrosia purpurea*).

Mix in water, boil-Filter and cool water should be given as per the requirement.

6. Results and Discussion

This investigation presents a role of plants of this district for kidney stone treatment. Present investigation reveals that the entire plant or their different organs are utilized by tribal people residing at different corners of the district and also by rural and urban persons. After the survey it is observed that in Aurangabad district there is lot of traditional utility of plants for diseases but it is very dishearten to observe that some plants mentioned in this present work, many of them are gradually diminishing. Authors fears that the changing environment, increasing population, government planning may be responsible for this. In this present survey of investigation for Aurangabad district based on ethnobotanical information, a humble attempt is made in this work by way of gathering information. This has proved one fact that some of the plants are quite versatile having varied uses and secondly the knowledge about the ethnobotanical plants has developed independently and parallel, where cross linkage and mutual integrations have been very rare.

It is observed that in the studied area, high population density and urbanization have led to intensive exploitation of plant resources, which in turn brought about the depletion of forest areas. Many drug plants have disappeared and few have reached the brink of extinction and still others facing similar stress. There is urgent need for conservation of some important drug plants.

7. Acknowledgement

Authors present heartiest thankfulness to Capt. Dr. Maqdoom Farooqui, Principal, Maulana Azad College, Aurangabad, for providing laboratory, library facilities and encouragements.

Authors express their deep sense of gratitude to Prof. N.P. Vaikos, ex head, Botany department, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, for his sincere guidance of this work.

They are also acknowledges for the valuable help rendered by tribals, non tribals, elder people, medicinal practitioners etc. of surveyed area.

Thanks are due to all family members and friends, without their silent backup this work would never been completed.

8. References

1. Chopra, R.B., S.L. Nayar and I.C. Chopra (1956). *Glossary of Indian Medicinal plants*, CSIR, New Delhi.
2. Chopra, R.B., Badhwar R.L. & Ghosh S. (1965), *Poisonous Plants of India Vol. II* -ICAR, New Delhi.
3. Dastur, J.F. (1962). *Medicinal plants of India and Pakistan, 2nd ed.* Taraporewala Sons & Co. Bombay.
4. Dey, A.C. (1980). *Indian Medicinal plants used in Ayurvedic preparations*, Bishen Singh, Mahendra Pal Singh, Dehradun.
5. Jain S.K. (1996) *Medicinal Plants*, National Book Trust, New Delhi.
6. Kirtikar, K.R. and B.D. Basu (1935). *Indian Medical Plants*, The Indian Press, Allahabad.
7. Jain S.K. Ed. (1989) *Methods and Approaches in ethnobotany*, Society of Ethnobotanists, Lucknow.
8. Naser Rafiuddin (2002) *Forest Wealth and Utility of Plants in Aurangabad District, Ph.D. Thesis*, Dr. Babasaheb Ambedkar Marathwad University, Aurangabad.
9. Naser Rafiuddin and N.P. Vaikos (2005) *Plants Used in teeth-care in rural areas of Aurangabad district*. *Journal of Sciences Vol. No. XXXIII(C)* , Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. Pp.82-84.
10. Naik V.N. (1998) *Marathwadyatil Samanya Vanaushadi*, Amrut Prakashan, Aurangabad.
11. Natesh, S. and H.Y. Mohan Ram (1999). *An update on green medicine* J. Indian bot. Soc. 78: 13-2.
12. Sivrajan, V.V. and Indira Balachandran (1994). *Ayurvedic drugs and their plant sources*, Oxford and IBH Publishing Co., Pvt. Ltd. New Delhi.