

Role of 'Gokshuradi Yog' in Early Symptomatic Relief in Urinary Tract Infection in Children.

Narsingh Verma*, Kalpana**, Ajay Verma***

*Lecturer, Department of Shalya tantra, GNAMC, Gopalpur, Ludhiana, Punjab, India.

**Lecturer, Department of Ras shastra and Bhaishjyan kalpana, GNAMC, Gopalpur, Ludhiana, Punjab, India.

***Assistant Professor, Department of Surgery, TMU, Moradabad, Uttar Pradesh, India.

ABSTRACT

Background: Gokshuradi Yog used from for strengthening and functioning of genitourinary tract. The study aims to study the role of this Ayurvedic medicine along with antibiotic in early response to treatment of urinary tract infection in children. **Methods:** This study was conducted on 52 children (32 girls and 20 boys). They had symptomatic and culture proven urinary tract infection. They were randomly allotted the treatment group and control group. Patients in control were given the antibiotics for seven days and were evaluated every alternate day for symptomatic relief. Similarly the patients in treatment group were started the antibiotics along with preparation of 'Gokshuradi Yog' for seven days and were evaluated every alternate days. Repeat culture was performed on seventh day of treatment and the final result was evaluated. **Results:** The most common organism grown on culture was *Escherichia coli* in 39 patients (22 girls and 17 boys). Of the 28 children in treatment group 26 were asymptomatic in 2 days however they continued to be on therapy for seven days. Two patients were symptomatic even after four days, one of whom was culture positive even after 7 days of treatment and was put on intravenous antibiotics. Six out of 24 patients in control group were asymptomatic in two days; the 18 remaining patients were symptomatic even till day seven of treatment out of which two patients were culture positive. **Conclusion:** Patients when treated with 'Gokshuradi Yog' along with the antibiotics brings early symptomatic relief in children suffering from culture proven UTI.

Key words: Ayurvedic medicine, Gokshuradi Yog, Urinary tract infection.

INTRODUCTION

Gokshuradi Yog is an Ayurvedic compound used traditionally for strengthening and functioning of genitourinary tract. The main ingredient, *Goksur* is renowned for its rejuvenating action on kidneys and prostate thus reducing the chances of urinary tract infection and renal stone formation. It maintains a healthy metabolism and detoxifies the urinary system. Based on its anti-inflammatory, antiviral and anti-pyretic properties, *Gokshuradi* revitalises kidneys weakened by *vata* (air), calms *pitta* (fire) inflammations, and reduces stones and swelling due to excess *Kapha*.

Nearly 2% children suffer an episode of UTI at least once in their childhood. It is the third major cause for poor growth and nutrition in children after acute respiratory tract infection and diarrhoea.

have more severe symptoms due to the long urethra and associated urethritis. Various Ayurvedic preparations have been shown to inhibit calculogenesis in pediatric population.^[1] Didymocarpene is the chief constituent of the leaves of *Didymocarpus pedicellata* and two important polyterpenes didymocarpol and didymocarpenol have been isolated from the essential oil, which have been reported to be beneficial in the management of urolithiasis.^[2,3] The rhizome, *Saxifraga ligulata*, contains an active principle, bergenin (0.6%), which is a known diuretic and helpful in dissolving kidney stones.^[4-6] India is an endemic area for calculogenesis because a large part of population rely on pulses exclusively for proteins.^[7]

MATERIALS AND METHODS

This study was conducted from 1.1.2014 to 31.9.2014 after receiving the clearance from the institute's ethics committee. Total 89 children presented to the outpatient department with symptoms of burning during micturation out of which only 59 were culture positive. On further investigations with ultrasonography and micturating cystourethrogram two patients were diagnosed to have Grade III vesicouretric reflux, one patient had unilateral urethrocele and one patient was a follow up case of posterior urethral valve. One patient was diagnosed to have unilateral

Name & Address of Corresponding Author

Dr. Ajay Verma
Assistant Professor, Department of Surgery,
Teerthankar Medical College and Hospital,
Moradabad, Uttar Pradesh, India.
E mail: talk2ajayverma@gmail.com.

The local symptoms of UTI are frequency, urgency and dysurea. Early treatment and symptomatic relief can significantly reduce the morbidity associated with repeated episodes of UTI. Girls are more commonly affected than boys, but the boys

pelviuretric junction obstruction. After excluding these five patients with surgical cause of UTI the remaining 52 children were enrolled in the study. They had symptomatic and culture proven urinary tract infection. They were randomly allotted the treatment group and control group by random number table. The random number table was computer generated. Patents in control group were given the antibiotics for seven days and were

evaluated every alternate day for symptomatic relief. Similarly the patients in treatment group were started the antibiotics along with preparation of 'Gokshuradi Yog' [Table 1] for seven days and were evaluated every alternate days. The parents were given a printed questionnaire for objective evaluation of symptomatic relief. Repeat culture was performed on seventh day of treatment and the final result was evaluated.

Table 1: Properties of various herbal components of 'Gokshuradi Yog'

<p>Goksharoo Latin name: Tribulus terrestris Family: Zygophyllaceae Part used: Root Properties: Rasa: Madhura Guṇa: Guru, Snigdha Virya: Shita Vipāka: Madhura Doṣaghnaṭā: Vata-Pitta Shamaka Pharmacological action : Diuretic and lithotriptic</p>	<p>Talmakhana Latin name : Asteracantha longifolia Family : Acanteaceae Part used: Root Properties: Rasa: Madhura Guṇa: Guru, Snigdha, Pichchhila Virya: Śita Vipāka: madhura Doṣaghnaṭā: Vata-Pitta Shamaka Pharmacological Action: Diuretic and anti-inflammatory</p>
<p>Eranda Latin name : Ricinus communis Family : Euphorbiaceae Part used: Root Properties: Rasa: Madhura; Anurasa- Katu, Kashaya Guṇa: Snigdha, Tikshna, Sukshma Virya: Ushna Vipāka: madhura Doṣaghnaṭā: Vata-Kapha Shamaka Pharmacological Action: Diuretic and analgesic</p>	<p>Vrihati Latin name : Solanum indicum Family : Solanaceae Part used: Root Properties: Rasa: Katu, Tikta Guṇa: Laghu, Ruksha, Tikshna Virya: Ushna Vipāka: Katu Doṣaghnaṭā: Vata-Kapha Shamaka Pharmacological Action: Diuretic and antiinflammatory</p>
<p>Kantakari Latin name : Solanum surattense Family : Solanaceae Part used: Root Properties: Rasa: Katu, Tikta Guṇa: Laghu, Ruksha, Tikshna Virya: Ushna Vipāka: Katu Doṣaghnaṭā: Vata-Kapha Shamaka Pharmacological Action: Diuretic and antiinflammatory</p>	<p>Curd Properties: Rasa: Kashaya (slightly) Guṇa: Snigdha, Guru Virya: Ushna Vipāka: Amla Doṣaghnaṭā: Vata-Kapha Shamaka Pharmacological Action: Diuretic</p>
<p>Paste is prepared from the roots (in equal quantity) of Goksharoo, Talmakhana, Eranda, Vrihati and Kantakari with milk and dissolving in the sweet curd. (Charaka Chikitsa 26/62)</p>	

RESULTS

Fifty two children symptomatic of culture proven UTI were enrolled in the study. There were 32 girls and 20 boys in the study. *Eschereria coli* was the most common organism grown on culture (39

patients, 22 girls and 17 boys) followed by *Klebsiella* (11 patients, 9 girls and 3 boys) and *Pseudomonas* (2 patients, one girl and one boy). Age range was 3 to 10 years with median of 4 years. Most common local symptom in both boys and girls were frequency and dysurea. Urgency was

reported less because it is difficult to report urgency in children.

Treatment group has 28 children (19 girls and 9 boys). Control group has 24 children (13 girls and 11 boys). Twenty six children of control group (26/28) showed early symptomatic relief as compared to 6 children of control group (6/24). Two children from the treatment group were symptomatic for four days after initiation of treatment of which only one patient remained culture positive after seven days of treatment. In the control group 18 patients were symptomatic after seven days of treatment but only two were culture positive.

DISCUSSION

Morbidity due to local symptoms in children suffering from UTI is a major concern for the treating physician and the parents, the early alleviation of these symptoms and proper treatment of active infection is warranted. Ayurvedic preparations have been well known for their anti-inflammatory properties. Many Ayurvedic preparations have been used in the treatment of UTI. We have selected an ayurvedic preparation which has anti-inflammatory action and it has been proven to alleviate the local symptoms of UTI.

Although modern antibiotics are being used in UTIs, urinary tract infections can be quickly and easily treated by supplementing it with a Ayurvedic medicine with no side effects. Herbs known for the management of urinary tract Infections and other urinary disorders divided in important categories: (a) Urinary antiseptic and anti-adhesion herbs like *Juniperus* sp., *Vaccinium macrocarpon*, *Salvia officinalis*, *Punica granatum*, *Tribulus terrestris*, *Terminalia chebula*, *Ocimum sanctum*, *Cinnamomum cassia*, *Azadirachta indica* and *Ocimum sanctum*,^[8,9] which are effective against major urinary tract pathogens namely *E. coli*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa* and *Enterococcus faecalis* (d) Bladder protectives that control bladder and protect from infections comprising of *Equisetum arvense*, *Hydrangea petiolaris* and *Zea mays*^[10] (e) Kidney care for instance, *Boerhaavia diffusa*, *Eupatorium purpureum*, *Agropyron repens* and *Berberis vulgaris* and (f) Herbs for symptoms of benign prostatic hyperplasia, most notably *Serenoa repens* and *Prunus africana*. All these herbs are discerned to know different type of phytoconstituents and show potential in the treatment of urinary disorders and could be alternative to uropathogen resistance to the antibiotic during a UTI.

We do not claim the antibiotic effect of 'Gokshuradi Yog' as it had neither been proven earlier nor tested in this study.

Conclusion: Patients when treated with 'Gokshuradi Yog' along with the antibiotics brings early symptomatic relief in children suffering from culture proven UTI.

REFERENCES

1. Agarwal BV, Gupta SK, Paramesh R. Effect of Cystone on pediatric urolithiasis with special reference to urinary excretion of calculogenesis inhibitors. *Medicine Update* 2004;11(11):47-54.
2. Baheti DG, Kadam SS. Antiurolithiatic activity of some traditional medicinal plants against calcium oxalate induced urolithiasis in rats. *IJPCBS* 2013;3(4):1276-1285.
3. Siddiqui S. The constituents of *Didymocarpus pedicellata*. Part I. Isolation of a new series of colouring matters. *J Indian Chem Soc.* 1937;12:703-8.
4. Jain MK, Gupta K. Isolation of bergenin from *Saxifraga ligulata* Wall. *J Ind Chem Soc.* 1962;39: 559-560.
5. Shikov AN, Pozharitskaya ON, Makarov VG, Wagner H, Verpoorte R, Heinrich M. Medicinal Plants of the Russian Pharmacopoeia; their history and applications. *Journal of Ethnopharmacology* 2014; 154 (3):481-536.
6. Nazir N, Koul S, Qurishi MA, Taneja SC, Ahmad SF, Bani S, Qazi GN. Immunomodulatory effect of bergenin and norbergenin against adjuvant-induced arthritis - a flow cytometric study. *Journal of Ethnopharmacology* 2007;112: 401-5.
7. Teotia M, Teotia SPS. Kidney and bladder stones in India. *Postgraduate Med.* 1977;53: 41-8.
8. Sharma A, Chandraker S, Patel VK, Ramteke P. Antibacterial activity of medicinal plants against pathogens causing complicated urinary tract infections. *Indian J Pharm Sci* 2009; 71:136-9.
9. Pereira RS, Sumita TC, Furlan MR, Jorge AO, Ueno M. Antibacterial activity of essential oils on microorganisms isolated from urinary tract infection. *Rev Saude Publica.* 2004;38:326-8.
10. Bag A, Bhattacharyya SK, Chattopadhyay RR. Medicinal plants and urinary tract infections: An update. *Pharmacog Rev.* 2008;4:277-84.

How to cite this article: Verma N, Kalpana, Verma A. Role of 'Gokshuradi Yog' in Early Symptomatic Relief in Urinary Tract Infection in Children. *Ann. of Int. Med. & Den. Res.* 2015;1(1):18-20.

Source of Support: Nil, **Conflict of Interest:** None declared