



## Case Report

## The role of Ayurveda management in preventing surgical site infections instead of surgical antibiotic prophylaxis

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## ABSTRACT

It is probably for the first time in the history of modern surgery that Benign Prostate Hyperplasia (BPH) surgery which belongs to 'clean contaminated' class and requires at least 3 doses of prophylactic antibiotic as per recommendations by American Urology Association, was done without the use of any as the patient had a history of severe intolerance to them. The case was an 83 year old male patient presenting with acute urinary retention. He was a known case of BPH being managed continuously on Ayurvedic therapy for many years. It was a challenge to conduct the inevitable surgery without any antibiotic prophylaxis. Holmium laser enucleation of prostate (HOLEP) was done with Ayurvedic medicine support only without the use of any antibiotic. The post-operative recovery was uneventful. The long term recovery was unusually faster and remarkable. In view of rising antibiotic resistance and World Health Organisation (WHO) declaration of arrival of post-antibiotic era, the successful outcome of this case could open new channels of research into Ayurveda, to find out the solution to the worst ever antibiotic crisis of the present time.

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## 1. Introduction

Modern medicine is facing the worst ever existential crisis in the form of antibiotic resistance which has threatened the management of bacterial infectious diseases and surgery itself since both are dependent on antibiotics for treatment and prophylaxis.

It was by compulsion and not by choice that the 83 years old patient was operated for his huge (240 g) benign prostate enlargement of many years duration which presented with urinary retention, without the use of any antibiotic, with the support of Ayurvedic medicines only. The patient was not only sensitive rather intolerant to any class of antibiotics; his body used to react strongly whenever he was given any antibiotic for other ailments throughout his whole life. The challenge was to perform this unavoidable surgery without the use of any antibiotic. This surgery belongs to 'clean contaminated' category which requires at least three doses of antibiotics as a protocol as per recommendations of

American Urology Association (AUA) to avoid any chance of post-operative surgical site infection.

The challenge was taken up in the larger interest of the patient. The surgery, holmium laser enucleation of prostate (HOLEP), was done under spinal anaesthesia. The duration of the surgery was 4 h. No antibiotic was administered any time in pre, per or post-operative period. The post-operative and long term recovery were uneventful and much quicker than usually seen.

## 2. Presenting concerns

83 year old male, retired professor of law as well as an ex-army man, thin built, 50 kg of weight, a case of BPH presented with complaints of acute urinary retention. There was no history of diabetes, hypertension or any cardiac event. He led a very disciplined life, getting up early in the morning, doing yoga and morning walks and very disciplined dietary habits. No history of tea, coffee, smoking or alcohol intake and he remained strictly vegetarian throughout his life. He was also having bronchiectasis for many years with symptoms of cough along with sputum on and off and left sided inguinal hernia also of long duration. Allopathic medicine

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was not his cup of tea. He could not take any antibiotic throughout his life as his sensitive body used to react strongly whenever he tried any. He was managing himself conservatively with Ayurvedic medicines for his BPH symptoms like frequency, hesitancy and urgency for many years.

### 3. Clinical findings

A thin built patient with good general condition. His BP was 160/90 mm of Hg, pulse 76 per min., regular. On digital rectal examination, prostate was found to be enlarged with no palpable nodules and was non-tender. Patient was also having left sided inguinal hernia. Both the testes were within normal range.

### 4. Diagnostic focus and assessment

He was subjected for cardio-pulmonary assessment. His haemogram, kidney function test, liver function test, ECG, echocardiogram, USG, urine routine exam and culture, PSA, X-ray chest, lipid profile were done. X-ray chest revealed multiple bronchiectatic patches in both the lungs. USG abdomen revealed huge (240 g) homogenously enlarged prostate gland. His haemoglobin was 11.2 g%. All other tests were within normal limits and he was allowed to undergo the surgery.

### 5. Timeline

He developed acute urinary retention on 17th February, 2016 due to BPH of 8–10 years duration. He was put on indwelling Foley's catheter and was advised battery of investigations to confirm the diagnosis, to rule out malignancy and to prepare him for surgery. He developed swelling in his right scrotum on 20th February which was found to be epididymo-orchitis on examination. Despite the history of antibiotic intolerance, he was prescribed Zanicin 400 once a day. His body reacted with intense diarrhoea, irritation and feeling of sinking on 3rd day confirming his claim of antibiotic intolerance. Antibiotic was stopped. Fortunately swelling gradually subsided in few days time on its own.

The challenge was to do the surgery without antibiotics. Many known Ayurvedic physicians of repute were consulted for Ayurvedic medicine support as an alternative to antibiotics during this window period. Many Ayurvedic physicians raised their hands and expressed inability to help. At last, few renowned Ayurvedic physicians of the country gave assurance and designed an Ayurvedic prescription as an alternative to antibiotics to be used for the surgical prophylaxis.

He was operated upon for removal of BPH on 1st March, 2016, at Anand hospital, Meerut. Post-operative recovery was exceptionally quick and he was discharged from the hospital in a satisfactory condition on 3rd March, 2016.

### 6. Therapeutic focus and assessment

Holmium laser enucleation of prostate (HOLEP) was done under spinal anaesthesia. It was a big prostate and took nearly 4 h for the whole procedure. Two blood transfusions were given during surgery. No antibiotics were administered any time. He behaved well throughout the procedure and surgery went smooth without any per-operative untoward event.

240 g of prostate chips were excised and submitted for histopathological examination which was reported as benign adenofibromatous hyperplasia of prostate.

Ayurvedic medicines were started 3 days pre-operatively and continued for two weeks post-operatively in doses and combinations as prescribed by a team of competent Ayurvedic physicians of

the country. The ingredients of the Ayurvedic preparations were as follows:

- Giloy (*Tinospora cordifolia*)
- Neem (*Azadirachta indica*)
- Tulsi (*Ocimum sanctum*)
- Shigru (*Moringa oleifera*)
- Amla (*Emblica officinalis*)
- Haldi extract (*Curcuma longa*)
- Panchtikta ghrita guggulu (combination of many herbs and ghee)

Most of the above mentioned plants have been found to have antimicrobial properties against common pathogens [1–6].

### 7. Follow-up and outcomes

The patient was kept on Foley's catheter. The routine post-operative regimen of bladder irrigation was followed. He experienced few episodes of bladder contractions with pain for which he refused to take any analgesic or any other allopathic medication and continued on Ayurvedic medicines only. Rest of the post-operative period was uneventful. He was discharged from hospital in satisfactory condition after 48 h of surgery. His catheter was removed after 7 days and he voided well with a normal stream. He had no dysuria or pain any time throughout the follow-up period which was an unusual observation. His recovery was remarkable and he returned to his daily routine in very short time without any complications. The total observation period has been of more than 6 months.

### 8. Discussion

In view of rising antibiotic resistance, WHO declaration of arrival of 'post-antibiotic era' and 'microbiome theory', blaming antibiotics for suppression of human microbial flora and so the innate immunity, disturbing the metabolism, affecting digestion, inhibiting synthesis of vitamin B complex and unprecedented rise of autoimmune diseases in human beings in recent times, pharmaceutical companies shifting their focus from antibiotic research to much more profitable lifestyle disease management, it becomes a matter of utmost importance and urgent attention to look for alternatives to antibiotics.

The germ theory of causation of diseases was declared invalid by none other than its founder, Louis Pasteur, some twenty years after it was propounded in 1860 but antibiotics continue to remain mainstay of treatment of infectious diseases and as surgical prophylaxis in modern medicine. Modern medicine is facing the worst ever existential crisis of present time in the form of antibiotic resistance. Microbiome theory is gaining momentum. Shit capsules and faecal transplants are being done to regain the lost microbial flora due to the use of antibiotics.

Could the successful outcome in the form of remarkable, uneventful and faster recovery of this 4 h long, huge 240 g benign prostate holmium laser surgery, belonging to 'clean contaminated' class, requiring at least 3 shots of antibiotics as per recommendation of American Urology Association but done without the use of any, since the patient, 83 years old male, was intolerant to antibiotics, prove to be an epoch making event in the history of medicine? Could Ayurveda prove to be a viable and 'organic' alternative to the already dying and harmful chemical antibiotic therapy in the treatment of infectious diseases and as surgical prophylaxis?

Surgery is an independent discipline and not a part of medicine as is generally believed. The role of medicine is to help surgery in three ways viz. Anaesthesia, Antibiotics and Analgesics. Modern

medicine played this role well but not without perturbing harmful side effects. It seems to be a treatment paradox that antibiotics on one hand helped against infection but suppressed the beneficial microflora, the innate immunity and so the self healing power of the individual on the other hand.

Can Ayurveda carry this role of supporting surgery better than allopathy by providing not only protection against infection, that too without suppressing the innate immunity rather enhancing the natural healing power of the individual and shorten the post-operative recovery time?

It is a matter of great surprise and revelation that there exists not only anecdotal evidences rather a complete Ayurvedic science of surgery, treatise of which although not supposed to be complete but is available even today and unanimously accepted to be approximately 3000 years old in the form of 'Sushrut Samhita' comprising of 120 chapters, 1120 conditions, 121 surgical instruments, 300 surgical procedures including plastic surgery, cataract, repair of ear lobes, urinary stones, perineal lithotomy and removal of dead foetus etc. To even greater surprise, the basic principles and instruments remain the same as in modern surgery even today.

Would modern day researchers take inspiration from this case to dig deep into Sushruta Samhita to find out how the surgeries were done in ancient times without the use of antibiotics?

Could it compel the modern day researchers to think beyond the boundaries and mental barriers to find out solutions to the antibiotic menace in ancient Ayurveda?

## 9. Patient's perspective

"I was having BPH for last many years and was experiencing symptoms like night frequency which was affecting my sleep and my health as a whole adversely. Occasional bouts of urgency and hesitancy were also there but not that much troubling. I was managing myself with Ayurvedic medicines for last many years. I never felt comfortable with allopathic medicines especially antibiotics and used to have stomach upset and an unbearable feeling of uneasiness whenever I took any. Surgery was advised to me for the enlarged prostate from time to time but I was pulling on with Ayurvedic medicines for last many years. It was on 17th February, 2016 that I landed in urinary retention. A urinary catheter was put on. I was told that surgery is the only alternative now. Since I respect all the systems of curing disease and their experts equally, I gave my consent for surgery. I take life as it comes and try to do my duty accordingly. On 20th February, I felt pain and swelling in my right testes for which I was prescribed antibiotics despite my known history of intolerance to them. As expected, I couldn't tolerate it and started having severe stomach upset, loss of appetite, diarrhoea and a severe feeling of sinking. I had to stop the

antibiotics and reported this to the surgeon. The writing on the wall was very much clear to everybody now- 'The surgery is inevitable and the antibiotics intolerable.'

A frantic search for antibiotic alternative was started in Ayurveda. Few renowned Ayurvedic physicians of the country gave assurance and prepared a prescription of Ayurvedic medicines as an alternative to antibiotic prophylaxis for this surgery.

Although, I took all the responsibility myself, for the consequences of doing the surgery without antibiotics but I give all the credit of actually doing it to Dr. Subhash Yadav and his team, who showed the courage to accept this challenge, putting his own reputation at stake and did the job successfully, knowing well the risks involved. I didn't even take any pain killer any time after the surgery and relied on Ayurvedic medicines only.

Rest all is history now. The surgery was exceptionally successful with unusual faster recovery as inferred by Dr. Subhash Yadav himself.

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## Conflict of interest

None.

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