A TIMELY MANAGEMENT OF CELLULITIS SAVES THE DIGIT - A CASE STUDY

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ABSTRACT
This case study proves that ‘A timely taken proper step can check the infection and help to save the digit of the patient.’ A forty two years female patient came with swollen foot and fever with rigors since four Days. She had cellulitis with an Abscess Patient had taken Antibiotics but didn’t respond. Her cellulitis expanded up to her ankle so she came for Ayurvedic hospital. As she was ignorant about the severity of the condition, she was not ready for operation. But, after proper counseling she agreed. Immediately she was operated on the same day. Incision & drainage of her abscess with, debridement of wound was done and we were able to control the infection and succeed in saving her digit.

KEYWORDS: Cellulitis, Abscess, incision & drainage, debridement.

INTRODUCTION
“A stitch in time saves nine” is a famous phrase in English. It is also helpful in Medical Science. Sushruta the famous surgeon in ancient India also focused its importance while describing Vranashotha.

Cellulitis is a spreading inflammation of subcutaneous tissue. The causative organism is streptococcus pyogenes, staphylococcus aureus etc. These bacteria enter the body through even a minor scratch, crack, wound or surgical incision. It can occur at any part of the body, the legs and face is more common site. Usually the leg is affected. Diabetic, immuno compressant obese and Geriatric patients are more prone to infection. Conditions like insect bite, Spider bite animal bite, tattoos, pruritic skin, athlete’s foot dry skin eczema and intramuscular injections are some other predisposing factors. These bacteria spread rapidly
and the skin becomes red, swollen, hot and tender. Patient suffers from pain, fever with rigors. Formation of local gangrene and abscess are not rare. If this condition is not treated properly then the gangrene will spread and patient may lead to septicemia.

Similar condition is described by Sushruta the great surgeon in ancient India, in Vranashotha i.e. predisposing stage of Vrana (wound formation) in detail. He also described its various stages and various treatments which have to perform at a particular stage. The first stage is **Amavastha**-(unripe stage) in which vitiation of dosha are mild ,So there is mild & static swelling, mild discoloration, slight increase in local temperature .In this stage vimlapana i.e. softening by kneading with fingers and avasechana i.e. blood letting should be performed.

Second stage is **Pachyamanavastha** (Acute stage) - In this aggravation of dosha are more. All the symptoms are severe .various types of pain is there. In this stage upnaha or warm poultices should be applied. The third stage is **Pakvavastha** (suppurative stage) – in this localization of pus occurs so Sushruta advised patanakarma i.e. incision & drainage followed by shodhanakarma i.e. cleaning of cavity or debridement.

If surgeon neglect it or misdiagnosed it severe complications can occur which are described by Sushruta. So a proper treatment at proper stage shows successful result.

**CASE STUDY REPORT**

**Aim & objectives**
To prove the importance of time in management of cellulitis.

Type of study Observational single case study without control group

Study Centre- Ayurved & General hospital attached to P.D.E.A.’s College of Ayurved & Research Centre, Nigdi, Pune.

**STUDY DETAILS**
Age- 42 years
Gender-female
Religion-Hindu
Occupation –house wife
Diet –Vegetarian
Chief complaints
Sever Pain and swelling at right foot since four days, fever with rigors since four days. Unable to walk.

Brief history
A forty-two year old female patient came with swollen foot and had fever with rigors since four days. Her right foot was inflamed and the inflammation was upto the ankle. She had cellulitis with an Abscess. Patient had taken Antibiotics, but didn’t respond. Her cellulitis expanded up to her ankle so she came for Ayurvedic hospital.

On examination it was found that her abscess reached beneath her three digits. All vital parameters were within normal limits, Patient was hemodynamically stable, fit for anaesthesia. As she was ignorant about the severity of the condition, she was not ready for operation. But, after proper counseling she agreed.

Family History
Her father was Diabetic.

Local examinations
Site-whole right foot upto ankle was inflamed.

Dorsum of foot was red, hot and swollen. White discolored and centrally necrosed skin was seen at the sole near middle three digits, extremely tender with positive fluctuation, which was an abscess. It reached deeply beneath her middle toe, second and fourth toe. In its extension a small pustule was present on dorsum. No history of trauma. She noticed the swelling due to throbbing pain, intensity of pain was severe. Her father was Diabetic, never before she has checked her blood sugar

Lab Reports
HB % - 10.8 gm. Blood Urea-23 mg/dl WBC - 12,300 /Cu mm, Sr.Creatinine-0.81mg/dl
BSL-R.- 160 mg/dl Urine – NAD. E.C.G.-NAD

TREATMENT AND OUTCOME
After realizing severity of the disease she was admitted and same day posted for surgery under spinal anaesthesia. The surgery was incision and drainage with debridment. During surgery the abscess was drained and whole necrosed skin was excised. The wound was
debrided thoroughly. During debridement it was noticed that the infection reached deeply beneath her fourth toe and it was barely attached with her foot. So I called the relatives and showed the situation and explained the chances of auto amputation of that toe.

I cleaned the wound thoroughly and dressed it. & broad spectrum antibiotics were started. Along with them Ayurvedic medicine were started which were 1) SukshmaTriphala2 B.I.D 2) Gandhak Rasayan 2B.I.D.and 3) Yograj Guggulu 2 T.D.S.

To reduce Oedema her leg kept elevated. To reduce cellulitis apart from wound area her foot was dressed with hot Glycerin and Magnesium sulphate solution.

On second day there was no pus & the wound was clean. On third day she was discharged along with oral antibiotics and Ayurvedic medicine. She was Called for Dressing on alternate day, every time the wound was cleaned carefully under full aseptic precautions. After three weeks the wound cured completely and we were succeed to save her digit.

**FIGURES-Showing various stages of wound healing**

![Figure 1- Abscess Formation](image1.jpg)  ![Figure 2- Before Treatment](image2.jpg)
Figure 3- Wound on 2nd Day

Figure 4- Wound after 1 week

Figure 5- wound after 2 weeks

Figure 6- Wound after 18 days

Figure7-Wound after 20 days

Figure 8- Wound after 3 weeks–healing stage
OBSERVATIONS AND RESULTS: Gradation criteria for assessment of wound

<table>
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<tr>
<td>size</td>
<td>No discontinuity of skin</td>
<td>1/4&lt;sup&gt;th&lt;/sup&gt; Previous area of wound</td>
<td>1/2&lt;sup&gt;th&lt;/sup&gt; Previous area of wound</td>
<td>3/4&lt;sup&gt;th&lt;/sup&gt; Previous area of wound</td>
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<tr>
<td>Pain</td>
<td>No</td>
<td>Mild pain during movement, no painkiller required</td>
<td>Moderate pain at rest, painkiller required</td>
<td>Sever pain which disturbs the sleep &amp; sedatives required</td>
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<tr>
<td>Discharge</td>
<td>No</td>
<td>Mild serous discharge</td>
<td>Sero purulent Discharge needs daily dressing</td>
<td>Profuse pus discharge</td>
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<tr>
<td>Indurations</td>
<td>No</td>
<td>localized</td>
<td>All over Around Wound</td>
<td>Widespread upto ankle</td>
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<tr>
<td>Floor</td>
<td>Smooth with Healthy granulation tissue</td>
<td>Regular, scanty granulation tissue</td>
<td>Mild slough, no granulation tissue</td>
<td>Unhealthy, Plenty of slough</td>
</tr>
<tr>
<td>Edges</td>
<td>No Gapping</td>
<td>Sloping &amp; thin</td>
<td>Irregular &amp; slightly Opened</td>
<td>Irregular wide opened &amp; thick</td>
</tr>
<tr>
<td>Fever</td>
<td>upto 98.6F</td>
<td>98.7 to 100 F</td>
<td>100.1 to 101 F</td>
<td>Above 101.1F</td>
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Observations of prognosis of wound as per assessment criteria:-

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<th>2&lt;sup&gt;nd&lt;/sup&gt; Day</th>
<th>After 1&lt;sup&gt;st&lt;/sup&gt; week</th>
<th>After 2&lt;sup&gt;nd&lt;/sup&gt; week</th>
<th>After 3&lt;sup&gt;rd&lt;/sup&gt; week</th>
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<tr>
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RESULT
As we did incision and drainage with thorough debridement at proper time, the wound responded very well and healing started.

DISCUSSION
As this lady came to us at suppurative stage (Pakvavastha) the choice of treatment was incision and drainage followed by debridement. As it was performed at proper time the infection got checked early and the digit which was loosely attached to foot can be saved.
CONCLUSION
This case study proves the importance of timely taken treatment which helps to check the infection early and stops further propagation of the disease.

REFERENCES