

**DEMOGRAPHIC STATISTICS IN PATIENTS OF VRANASHOPHA (CELLULITIS)**

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**ABSTRACT**

*Acharya Sushruta* has mentioned concept of inflammatory swelling under the heading of *Shopha*. Clinical features of *Vranashopha* are much resembled to inflammatory swelling like as cellulitis. Cellulitis can cause mild discomfort to severe toxemia, which can lead to death. A study was carried out in 20 patients of cellulitis. Incidence of cellulitis was elaborated in respect of age, sex, occupation, *prakriti*, inhabitancy, socio-economic status, dietary habit, addiction, etiology, and onset of disease, duration of disease, site, color and surface of diseased site. The assessment was done with the help of clinical history and thorough examination. Patients with age between 41-50 years were affected 35%, male patients were 70%, 35% patients were farmer, 60% patients were from rural area, 50% patients were of *Pitta* dominant *prakriti*, lower extremities were affected in 65% of patients.

**Keywords:** *Acharya Sushruta*, *Vranashopha*, Inflammation, Cellulitis, *Prakriti*

**INTRODUCTION**

*Acharya Sushruta*, father of Indian surgery (*Shalya Tantra*) was well aware of importance of *Vranashopha* (inflammatory swelling) and *Vrana* (wound) and their management in surgical practice. The *Vranashopha* was described as earlier phase of *Vrana*.<sup>1</sup> *Vranashopha* has 3 progressive stages, these are *Amawastha* (early stage of inflammatory process), *Pachyamanawastha* (true inflammatory stage), and *Pakwawastha* (suppurative stage) respectively.<sup>2</sup>

Clinical features of *Vranashopha* explained by *Acharya Sushruta* resemble to inflammatory swelling like cellulitis. Cellulitis is characterised by an acute, diffuse, spreading, oedematous non suppurative inflammation of the dermis and subcutaneous tissues.<sup>3</sup> Cellulitis can cause mild discomfort to severe complications like sepsis, local gangrene, necrotising fasciitis, septicaemia which

can lead to death.<sup>4</sup> Condition of necrotising fasciitis is very dangerous which has 39% of mortality rate.<sup>5</sup> A study on 20 patients of cellulitis was carried on the basis of clinical history.

**MATERIAL AND METHODS**

After detailed clinical history and informed consent 24 patients with sign and symptom of cellulitis were registered as per designed proforma from the OPD/IPD of the Department of Shalya Tantra, Sir Sunderlal Hospital I.M.S., B.H.U., Varanasi (U.P.) Random selection was made in respect of age, sex, occupation, *prakriti*, economic status, addiction, duration of disease, onset of disease, etc. out of these 20 patients could complete the study and 4 patients discontinued the treatment so they were not included in the study. Routine and needful investigation such as CBC, Blood sugar, RFT, LFT, HIV, HBsAg, had been done.

**Inclusion Criteria:** Cellulitis of all parts of body except orbital cellulitis, with sign and symptoms as pain, tenderness, edema, erythema, local temperature and fever were included.

**Exclusion criteria:** Patients of Diabetes mellitus, Hypertension, Chronic Renal Failure, Malignancy, Orbital cellulitis, HBsAg positive, HIV positive were excluded from the study.

**Assessment Criteria for cellulitis**

**Local:** Local criteria as colour (erythema), edema, temperature, induration, tenderness

were assessed by different grading system in the patient with cellulitis.

**Generalised:** Generalised criteria as general condition, pulse rate, blood pressure, respiration rate, pain, fever were assessed.

Local and generalised criteria were assessed daily and investigation criteria were assessed weekly and grading of the criteria was done according to designed proforma.

TABLE 1: ASSESSMENT OF CELLULITIS

Assessment criteria	Grade-0 (Normal)	Grade-1 (Mild)	Grade-2 (Moderate)	Grade-3 (Severe)
<b>Pain</b>	No pain	Pain not require analgesic	Pain which require analgesic	Not respond to analgesics
<b>Tenderness</b>	No tenderness	Tenderness to palpation without grimace or flinch	Tenderness to palpation with grimace or flinch	Withdrawal (positive jump sign) to non-noxious stimulus
<b>Edema</b>	No edema	5 - 10% inter-limb discrepancy in volume or circumference at point of greatest visible difference	>10 - 30% inter-limb discrepancy in volume or circumference at point of greatest visible difference	>30% inter-limb discrepancy in volume; gross deviation from normal anatomical contour
<b>Erythema</b>	No erythema	Pink	Red	Brick red
<b>Fever</b>	No fever	99 - 100° F	100 - 102° F	>102° F

**RESULT**

Demographic study was carried out according to following subject:

**1. Age**

Out of 20 maximum 35% (n=7) patients were of age group between 41-50 years.

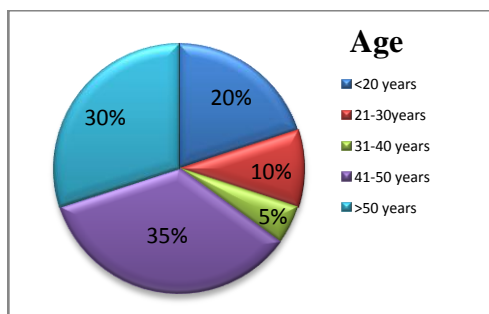


Fig: 1 Distribution according to incidence in Age

**2. Sex**

Majority of patients (70%) were male, and rest 30% patients were female.

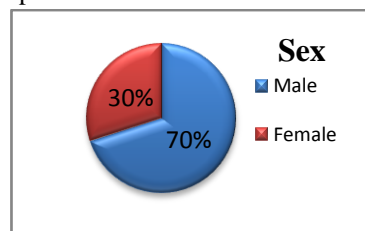


Fig: 2 Distribution according to Sex

**3. Occupation**

Occupational status showed maximum 35% of patients were farmer.

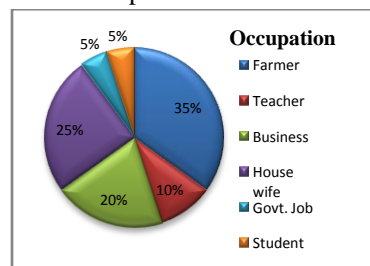


Fig: 3 Distribution according to incidence in Occupation

#### 4. Inhabitancy

In present study 12 (60%) patients were from rural area and 8 patients (40%) were from urban area.

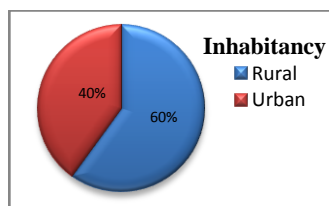


Fig: 4 Distribution according to Inhabitancy

#### 5. Diet

60% of patients were having mixed (Veg- nonveg) diet, while 40% were vegetarian.

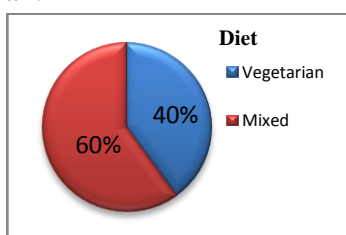


Fig: 5 Distribution according to Dietary habit

#### 6. Addiction

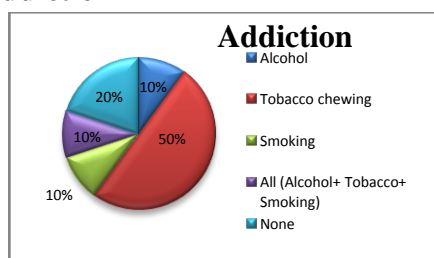


Fig: 6 Distribution according to Addiction

Out of 20 patients 10 patients (50%) had the addiction of tobacco chewing. 20% patients were having no any addiction

#### 7. Prakriti

Maximum 50% patients were of *Pitta* dominant *prakriti*, 30% were of *Kapha* dominant *prakriti* while 20% were of *Vata* dominant *prakriti*. So the incidence was found higher in *Pitta* dominant *prakriti*.

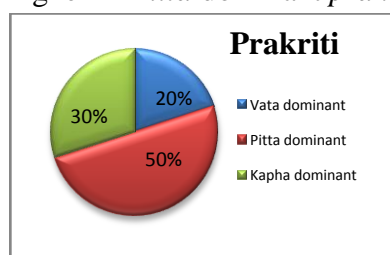


Fig: 7 Distribution according to *Prakriti*

#### 8. Etiology

Incidence were equal according to causative factor i.e. 50% of patients were having traumatic history and 50% were of no any known cause.

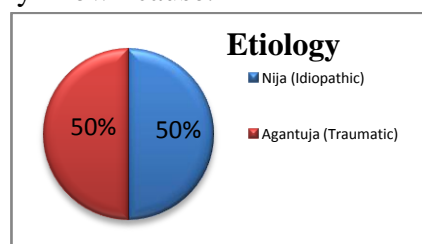


Fig: 8 Distribution according to Etiology

#### 9. Site

Incidence of cellulitis were found maximum 65% ( $n=13$ ) in lower extremities, and 15% in upper extremities, 10% in scrotum, 5% in chest wall and 5% in other region (over left knee joint).

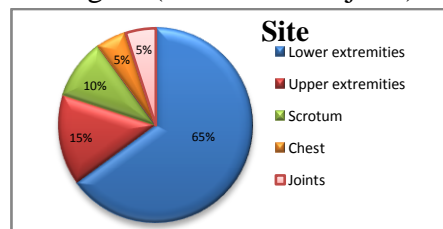


Fig: 9 Distribution according to site of cellulitis

### DISCUSSION

Prevalence of cellulitis was more in age group above 40 years as this is most active phase of people. This age group is more prone to infections due to risk of blunt or sharp injury during travelling, other routine work, and improper hygiene. A study presented total of 7438 new cases of cellulitis occurred between 1 January 1997 and 31 December 2002, result was highest in both females and males aged 45–64 years.<sup>6</sup>

The incidence was more in farmer might be because of lack of awareness, poor hygiene and all time working in farm house while educated person are more aware about disease. Patients belong to rural area were affected more it is probably due to lack of medical facilities, sanitation, education and ignorance of disease in rural area as compared to urban.

According to *Ayurveda* non vegetarian diet may enhance the possibility of disease by vitiating *doshas*. It is also aggravate the infection. Addiction of tobacco chewing was found more, it is due to tobacco contains nicotine and it aggravate incidence of infection. A study shows nicotine is responsible for the inhibitory effects on the immune responses.<sup>7</sup>

*Pitta* dominant patients were found more might be due to the characters of *Pitta* are more similar to features of inflammation like redness, raised temperature, fever, pain. The most common anatomical site of cellulitis infection was the lower extremity. Many studies have found a higher prevalence of lower extremity cellulitis infections than upper extremity infections.<sup>8, 9</sup> This is probably due to lower limb are the most dependent and peripheral part of body and has comparative poor circulation (circulation of blood against gravity) so the chances of infection are more common. The incidence of filariasis was found in 10% of cases associated with cellulitis. Lymphoedema has been shown in several studies to be the strongest risk factor for cellulitis.<sup>10, 11</sup>

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