



Management of Fourniers Gangrene with Chedana and Sandhana Karma: A Case Study

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Abstract: Fourniers gangrene is a life threatening condition and high mortality rate. It is a polymicrobial infection usually associated with various comorbidities. Early diagnosis is the success key to prevent various comorbidities and mortality. In this case effect of Chedana and Sandhan karma was documented in a case of fournier's gangrene. This study was conducted on 60 yrs old patient who was admitted in IPD of Sir Sundar Lal Hospital IMS BHU Varanasi with complain of high grade fever with intense pain and swelling in scrotal region. Chedan Karma (Early and aggressive surgical Debridement) of scrotal gangrenous tissue followed by Shodhan karma (Daily cleaning and Dressing with Normal Saline) with application of Nimbadi Taila was done for 15days. On the 3rd week dressing started with application of Jatyadi Taila to promote wound healing(Ropan Karma) . Scrotoplasty was done after 6weeks of Shodhana karma when Shudha Vrana features were found. The use of Ayurvedic formulation along with modern medicine after surgical debridement helped in early granulation, reduced bacterial load count. Significant improvement was observed in the patient in the subjective parameter. This case is reported and the condition is reviewed in the light of recent literature.

Keywords: *Fourniers gangrene* , *Chedana*(Excision), *Shodhan*(Cleaning),*Ropana* (Wound healing) ,*Sandhana*(Skin Grafting/Flap)

Introduction :

Fournier's gangrene (FG) is a rare but potentially life threatening condition. It is the form of necrotizing fasciitis that affect the perianal region.¹ While it is rarest emergency in urology but their mortality rate is high. This condition is named after Professor Jean-Alfred Fournier, the French venereologist who in 1883, used the term "fulminant gangrene" of the penis and scrotum for a sudden onset, rapidly progressing idiopathic scrotal gangrene in young men.² Early diagnosis and aggressive management are the keys to decrease the morbidity and mortality.³

कुथ्यतेपुतित्वंगम्यतेअनेन। कुथ् पुतित्वे करणे घञ्॥ 4] कोथः पुतीभावः॥ 5]

In Sushruta Samhita Gangrene can be considered as Kotha under Dusta Vrana due to margavrodh(Obstruction) and Dhatu Kshya. Marga word generally referred to channel within the body. Margavrodh is caused by imbalance of Vata, Pitta, Kapha. Gangrene may be accumulation of morbid kapha and Pitta dosha within the channel. Vata dosha helps in circulation of imbalanced Pitta and Kapha and they are stucked within the channel.

Distal to margavrodh circulation of nutrient is affected resulting dhatu kshaya. Necrotizing fasciitis is usually caused by polymicrobial infection and is often due to both aerobic and anaerobic bacteria. Including coliforms, Klebsiella, streptococci, staphylococci, clostridia, bacteroids, and corynebacteria. Escherichia coli is the predominant aerobe, and bacteroides is the predominant anaerobe, with an average of 4 isolates for each case. [6] Due to combined action of the bacteria this condition is often fatal.

छेद्याभगन्दराग्रंथीः] अधिमांसकः।।...स्नायुमांससिराकोथो...7] स्नायुकोथादिषु तथाच्छेदनं प्राप्तमुच्यते।।8]

The spread of infection is along the facial planes and is usually limited by the attachment of the Colles' fascia in the perineum. Infection can spread to involve the scrotum, penis and can spread up the anterior abdominal wall, up to the clavicle [9]. The testes are usually spared as their blood supply originates intra-abdominally. The involvement of the testis suggests retroperitoneal origin or spread of infection [10]

After debridement reconstruction techniques such as Primary closure of the skin, local skin flap coverage, split-thickness skin grafts, muscular flaps, which are used to fill a cavity, should be done.

Incidence:

NECROTIZING FASCIITIS more frequent in elderly age group >50 years of age but it can occur in almost all age group including children, and healthy adult can also get affected. This condition is commonly seen in diabetes, old age, malnourished, immune-compromised individuals. Male to female ratio in Fournier's gangrene is 10:1, low incidence in female is mainly due to because of good drainage of genito urinary secretion.

Case Report:

A 60 year old diabetic patient came in Shalya OPD of Sir Sundar Lal Hospital I.M.S B.H.U Varanasi with complain of high grade fever with intense pain in scrotal region for 2 day duration. The severity of scrotal pain was 8/10 on 0-10 numeric pain rating scale. Pain aggravated during movement. Patient having no any history of surgical intervention. But patient having history of Diabetes since 8 year. Patient was taking oral hypoglycemic Drugs for Control of Diabetes. On examination, the patient was conscious, well-oriented, ill-looking, in discomfort, febrile (Temp. 39°C). on the local examination revealed that eschar over scrotal skin and redness and tenderness with oedema. There was no any significant findings on systemic and general examination. Blood investigation revealed that TLC count has been raised and Hb-9.6 gm/dl and FBS-130mg/dl and Blood urea 80mg/dl, Serum creatinin -1.6mg/dl.

Plan of Treatment - Under Spinal Anesthesia Surgical Debridement (Chedan karma) was planned

Procedure

Treatment of patient was done in a step by step procedure. According to Acharya Sushruta chedana is indicated in Kotha. So in the first step Chedana Karma (Early and Aggressive Surgical debridement) was done. Excised Tissue sent for histopathological examination. On the basis of pus culture antibiotic coverage was given to patient.

पंचमंशोधनं कुर्यात् षष्ठं रोपणमिष्यते।। 11]

Before wound healing the wound should be clean (Shudha Vrana). Shodhana Karma (Daily antiseptic dressing) with and normal saline and packing with Packing of Nibaadi Taila daily was continued until healthy granulation not seen. After 2nd week mild healthy granulation was appeared. On the 3rd week dressing started with Jatyadi Taila to Promote (Ropana) wound healing.

सप्तमं वैकृतापहम्।। 12] वैकृतापहमितिसवर्णकरणरोमसंजननादि।। [13]

Means return of wound to normal skin texture. After healing of the wound, if epithelialization is difficult to achieve reconstruction is done. In 2nd step Sandhana Karma (Reconstruction-by Scrotoplasty along with left sided orchidectomy) was done after 6th weeks of Shodhana karma when shudha vrana features were observed [13].

त्रिभिर्दोषैरनाक्रान्तः शिवौष्ठः पिडकीसमः। अवेदनो निरास्रावो व्रणः शुद्ध इहोच्यते।। 14]

The wound which is free from the symptoms of vitiated dosha, has bluish margins, granulation tissue at the level of the skin surface and has no pain or discharge is said to be clean one [14].

Oral medication was also given to patient- Panchtikta Ghrit Gugglu 2Bd, Shigru Gugglu 2bd, Aamalki Rasayan 1Tsf BD. For the Management of blood sugar insulin therapy along with BGR34 2bd and Madhumehari Churan also given to patient.

Follow up

After treatment period of 6th week patient was observed for 1 week then patient was discharged . Patient was advised for followup in a 15days for 1month.

Results –. Significant improvement was observed in the patient in subjective parameters-Pain, Discharge, and fever. The patient returned to his routine work and there was no discomfort after treatment. There was no recurrence of symptoms in follow up period. No any side effect or complication was complained during treatment and follow up period

Discussion

Fournier’s gangrene is a hazardous disease. It should be treated as early as possible. Step by step treatment process helped in the recovery of the patient. First Chedana karma caused the removal of necrotic tissues and slough in the scrotal tissue which prevented the spread of the disease upwards. After extensive debridement the role of Shodhana is important. After proper Shodhana, Ropana can be achieved. Nimbaadi Taila have strong shodhan property[15] so it was used for packing . Jatyadi taila was used for wound dressing which has potent wound healing property, which helped in quick wound healing [16]

Panchatiktaghrita guggulu [17] possesses antibiotic property preventing the secondary infection. Amlaki Rasayan [18] boosts immunity and restores body's vitality, acted as an immune modulator and antioxidant which exerted effect on wound healing causing better wound healing.

Conclusion

Fournier’s Gangrene is a life threatening condition. Early diagnosis is success key of its management. Extensive debridement along with Ayurvedic Formulation can cure the condition with comperatively better outcome. Sushruta Principle was used for its management

Chedana ⇨ **Shodhan** ⇨ **Ropana** ⇨ **Sandhan Karma**

The treatment principle described in Sushruta Samhita proved to be very scientific



Debrided Fournier Gangrene Wound after Chedana Karma
Fig-1

Healthy Granulation Scattered all over testis (On 4th week)
Fig-2



**On 6th week before Sandhana Karma
Fig-3**



**After 2nd week of Scrotoplasty
Fig-4**



**Healed Scrotal Skin along with scar after 8th week
Fig-5**

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