

ROLE OF MUSIC AS AN ADJUVANT THERAPY IN FOURNIER'S GANGRENE

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Abstract

Fourniers gangrene is rare but severe infective necrotizing fasciitis of external genitalia. It is imperative to start proper treatment at the earliest as if left untreated can lead to a fulminant course with multiorgan dysfunction. Surgical debridement and wound bed preparation is important. This study highlights the role of music therapy as an adjuvant therapy in management of Fournier's gangrene. **Single case study:** Patient was stabilized on routine therapy i.e. Broad spectrum antibiotics according to culture and sensitivity, strict glycaemic control was achieved. For reconstruction, wound bed preparation was done with multiple surgical debridement, low level laser therapy, Autologous Platelet Rich Plasma therapy, and topical insulin, phenytoin & Cholecalciferol with tobramycin application and temporary cover with heterografting. In addition, an adjuvant music therapy was given. Patient was made to listen to Indian Classical Raagas such as Raag Jaijaiwanti and Raag Bageshri during dressings & additionally 10 minutes daily for 3 times a day during period (3 weeks) of wound bed preparation. Feedback was taken from patient about how he feels during listening of music. **Results:** Wound Bed Preparation including music therapy was given for period (3 weeks) till wound bed was ready. Once wound bed got ready, reconstruction was done with local advancement flap with primary closure. Patient was discharged with complete wound healing. **Conclusion:** In the present study the adjuvant of music therapy showed a positive effect. Listening to music helped him in alleviating his anxiety, stress, pain relief during dressing indirectly helped in wound healing and recovery.

Keywords: Music therapy; Fournier gangrene; Wound healing.

Introduction

Fournier's gangrene (FG) is an acute, rapidly progressive, and potentially fatal, infective necrotizing fasciitis affecting the external genitalia, perineal or a perianal region, which commonly affects men, but can also occur in women and children.[1] Prompt surgical debridement and use of suitable broad-spectrum antibiotics is the corner stone for treatment of Fournier's gangrene. If early intervention is not done, Fournier's gangrene may lead to high mortality (20-30%).[2] Music therapy has been attempted as one of the adjuvant therapy in medicine, but on internet (google) we didn't find any study utilizing music therapy in Fournier's gangrene. This study highlights of role of music therapy as an adjuvant therapy in the management of Fournier's gangrene. **Aim:** This is a preliminary study to find the role of music therapy as an adjunct treatment in the management of Fournier's gangrene.

Material and Methods

This single case study was conducted in the Department of Plastic Surgery in a tertiary care hospital in during February to March 2019. An informed written consent was taken from the subject under study who was a 65

year old gentleman, a known case of long standing diabetes mellitus with hyperthyroidism presented with an ulcer over scrotum following surgery for hydrocele (figure 1). On admission, patient was febrile, toxic with throbbing pain. Broad spectrum antibiotics according to culture and sensitivity was started. Strict glycaemic control was achieved. For reconstruction, wound bed preparation was done with multiple surgical debridement, low level laser therapy (LLLT), Autologous Platelet Rich Plasma (APRP) therapy, and topical insulin, phenytoin & Cholecalciferol (vitamin-D) with tobramycin application and temporary cover with heterografting (collagen based biological dressing). In addition, an adjuvant therapy was given. Patient was made to listen to Indian Classical Raagas such as Raag Jaijaiwanti and Raag Bageshri during dressings & additionally 10 minutes daily for 3 times a day during period (3 weeks) of wound bed preparation (WBP) (figure 2). Feedback was taken from patient about how he feels during listening of music, whether it helps him in alleviating his anxiety, stress, pain relief during dressing indirectly helping in wound healing & recovery; and would he recommend music therapy for other patients or not.

Results

Wound Bed Preparation (WBP) including music therapy was given for a period of (3 weeks) till wound bed was made ready. Once wound bed got ready (figure 3), re-



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construction was done with local advancement flap with primary closure (figure 4). Patient was discharged with complete wound healing. On follow-up, patient is normal with his daily routine activities.

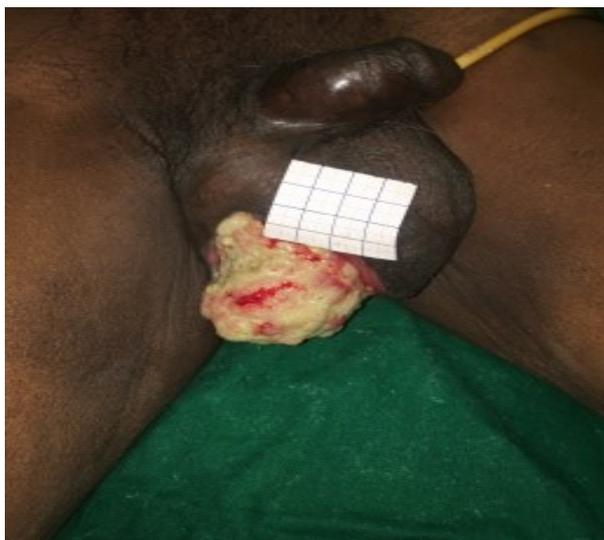


Figure 1. Fournier’s gangrene with ulcer over scrotum.



Figure 2. Patient undergoing music therapy session.



Figure 4. After 3 weeks of Wound Bed Preparation (WBP) including music therapy.



Figure 5. Complete wound healing after reconstruction.

Discussion

There are various adjuvant therapies which are being practiced in medicine like hypnosis has been studied for pain control in burn patients and concludes that hypnosis supplemented by little or no opioid medication results in excellent pain control, absence of need for supplemental anxiolytic medication, and shortens period of wound care. This is achieved by activation of non-opioid inhibitory mechanisms by hypnosis in a highly effective manner.[3] Many authors have reported that analgesic therapy alone is inadequate for pain relief and distraction therapy may help.[4] Further, some of the author have compared the use of video recordings (scenic beauty) accompanied by music to analgesia alone during burn dressing and found reduced pain and anxiety and recommended to use with analgesics to augment its effect during burn dressing.[5] Music therapy is an upcoming alternate adjuvant therapy for management of wounds & burns in spite of the fact that its effects and mechanism remains not clear. Particularly in the form of adjuvant therapy as part alternative medicine, music therapy has been widely used in multiple clinical fields due to its non-pharmacological, non-invasive and easily accessible features. Surgical residents generally ignore the use and efficacy of non-pharmacological adjuncts in the management of wounds. Literature search yields various articles on non-pharmacological adjunct treatment of pain and burns. These do suggest a cryptic role of the adjunct therapy like music therapy in wound healing related to unknown neural pathways. Further there are other mechanisms like enhancement of mood in pathogenesis and regulation of glycaemic control and its effect over wound healing. The understanding of music’s role in medicine is undergoing a rapid transformation based on neuro-scientific research showing the reciprocal relationship between neurobiological foundations of music in the brain and behaviour.[6] The empirical studies on therapeutic evaluation of the Indian classical raagas have shown interesting results. Raag Bhairavi has been found to uproot certain diseases like asthma, chronic cold, cough, tuberculosis, some of the sinuses and chest related problems. Raag Malhar pacifies anger, excessive mental excitements and mental instability. Raag Surat and Raga Jajivanti have also been found effective in curing mental disorders and

calming the mind.[7] Apart from this, music therapy helps in better inter-personal communication between patient and medical staffs. As a pilot preliminary work, the authors of this study have designed and carried out this study to find role of music therapy in the management of Fournier's Gangrene, a necrotising fasciitis involving the perineum that does not commonly herald a good prognosis most of the times. Based on feedback from patient and positive outcome authors feel there is a positive association between music therapy and Fournier's Gangrene and application of music therapy can be extended to other wounds and infective pathologies. There are limitations in the present study as it's a single centre study, performed on one subject with no control, comparison, randomization and statistical analysis. A large multicentre, double blind, control study with statistical analysis is recommended to substantiate the role of music therapy in Fournier's gangrene.

Conclusion

Present study of using music therapy as an adjuvant showed a positive effect in the management of Fournier's gangrene. Listening to music helped him in alleviating his anxiety, stress, pain relief during dressing which indirectly helped in wound healing and recovery.

Limitations of study: It is a single case study, so further requires a large multicentre, double blind, control study with statistical analysis to substantiate the result of this study.

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