



## Anaesthesia Management of a Case of Sepsis with Filariasis in Patient with Post Covid Lung Fibrosis Undergoing Above Knee Amputation

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### Abstract

Filariasis is a major cause of disability in the world and a leading health problem in India next to malaria. We present a case of a 68 year old woman with elephantiasis of the right leg due to lymphatic filariasis since 13 years undergoing above knee amputation of the right leg. The patient had gone into sepsis due to ulceration over the heel of the right leg. Patient was covid 19 positive 3 months prior with residual lung fibrosis. Anesthetic considerations were thrombocytopenia, difficulty in positioning and respiratory compromise (post covid fibrosis). Single shot spinal anesthesia (0.5 % bupivacaine heavy with injection fentanyl 20 mcg intrathecally) with epidural infusion of Ropivacaine 0.25% was given for postoperative analgesia. No significant intraoperative events occurred. Patient was subsequently discharged from the hospital after a brief stay in the ICU.

**Keywords:** Lymphatic Filariasis, Spinal, Epidural Anaesthesia and Analgesia, Above knee amputation

### Introduction

Lymphatic filariasis, commonly known as elephantiasis, is a neglected tropical disease. Patients with filariasis commonly suffer from cellulitis. The skin is at high risk of ulceration due to pressure necrosis and poor hygiene resulting in subsequent infections. Additionally, the hyperkeratotic and papillomatous surface harbors microbes, particularly when deep folds and crevices are present. When infection ensues, these patients are left with a compromised immune system. The patient's inability to clear bacteria leads to continued cytokine release and inflammation. Persistent inflammation, in turn, worsens swelling and adds further damage to their lymphatic system. This condition can potentially have fatal consequences, leading to a lymphoedematous extremity that gets progressed into septic shock.

### Case Report

A 68 year old female presented with swelling of right foot, first noticed 13 years back progressing to the right knee, present size - 30 x 10 x 10 cm. It was tender, irreducible with hardening and thickening of skin. She was diagnosed with filariasis and was treated with Diethyl Carbamazepine 100 mg TDS since 2008. She became Covid19 positive 3 months back, treated with Fabiflu. She was covid19 negative on admission. She was subsequently admitted to ICU in view of sepsis. Investigations on admission: - Hb - 8, TLC 20,000, Platelet count - 60,000, PT INR - 17.5, 1.8, S.Creatinine 1.2. She was given 4 pint FFP and 2 pint PCV. Post transfusion investigations were Hb - 10.7, Platelet count - 86,000, PT INR - 11.7/1.

Pre Anaesthesia check up for above knee amputation showed. Weight -90 kgs, pulse rate 110/min, regular, BP 100/60 mm Hg, SpO<sub>2</sub> – 97 % on RA. Airway assessment showed Mallampatti classification II and adequate mouth opening with upper jaw lateral incisors missing and loose left upper jaw canine. Short neck and heavy jaw was present. Right Side Air entry was decreased in lower zone. Spine examination showed narrow spaces with fusion of vertebrae. Pre operative investigations done after two days of blood and blood product transfusion were within normal limits. Patient was planned for elective epidural and spinal anaesthesia. Cross matched blood and ICU bed was confirmed. Patient's informed consent was taken for the surgery and later publication.

After preloading with 500 ml Ringer's Lactate, the patient was induced with epidural and spinal anaesthesia in right lateral position. Epidural was done in L2 – L3 epidural space and L3 – L4 subarachnoid space respectively by a senior anaesthesiologist after 2 attempts. Epidural catheter was fixed at 10 cm mark. Inj. Bupivacaine heavy 0.5 % 10 mg with 20 mcg fentanyl was given intrathecally using 25 G spinal needle. A sensory blockade up to T8 level was achieved. Continuous haemodynamic monitoring was done throughout surgery. 1 unit packed cell volume was transfused intraoperatively in view of acute blood loss of 500 ml. An epidural infusion of Ropivacaine 0.25 % at 3 ml/hr was started postoperatively. Post operative vitals were BP – 116/70 mm Hg, pulse rate 80/min and SpO<sub>2</sub> 97 % on RA. The patient was shifted to SICU for post operative management and observation. Shifted to ward on day 5 and discharged on day 10.

### Discussion

Lymphatic filariasis is caused most commonly due to infection with *Wuchereria bancrofti* which is a parasite transmitted into the blood stream by the bite of a female culex mosquito and subsequently passes into and affects the lymphatic system. After pilot project in Orissa from 1949 to 1954, the National Filariasis Control Programme (NFCP) was launched in the country in 1955 with the objective of delimiting the problem, to undertake control measures in endemic areas and to train personnel to man the programme Filariasis is associated with

significant social and economic consequences for affected individuals, their families and community as a whole. Patients suffering from filariasis are highly susceptible to cellulitis. Filariasis with cellulitis surgeries presents with complications such as difficulty in positioning and maintaining haemodynamic stability.

### Conclusion

Epidural with spinal anaesthesia was the preferred method of induction over general anaesthesia in this case scenario. The patient had post covid fibrosis with reduced air entry .recovering sepsis which might have made extubation difficult. Epidural proved beneficial considering post operative pain management.

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### References

1. Challenges of cellulitis in a lymphedematous extremity- A Case Report. Matthews Pierce Connor and Richard Gamelli <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2804019/pdf/1757-1626-2-9377>
2. Combined spinal epidural anaesthesia J. Sudharmanasinghe, Elyad Davidson <https://www.nysora.com/regional-anesthesia-for-specific-surgical-procedures/abdomen/combined-spinal-epidural-anesthesia/>
3. Surgical Debulking, Lymphaticovenous anastomosis, vascularized lymph node transfer in lower limb lymphoedema. Hari Venkatramani, Rajasabapathy Raja Shmuga Krishanan [.https://parjournal.net/article/view/3418](https://parjournal.net/article/view/3418)
4. Surgical Treatment of elephantiasis of the feet in congenital lymphoedema to facilitate the use of a compression mechanism. Jose Maria Pereira De Godoy, Lina MO Azoubel <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2866551>

**Figure 1: 68 year old patient with elephantiasis of the right leg**



**Figure 2: The patient underwent above knee amputation of the right leg**



**Table 1: investigations preoperative and post operatively**

|                | Preoperatively | Postoperatively |
|----------------|----------------|-----------------|
| Hb             | 10.7           | 9.4             |
| TLC            | 16,000         | 18,000          |
| Platelet count | 120000         | 100000          |
| S.creatinine   | 2              | 1.6             |
| S.albumin      | 2.5            | 3               |
| PT             | 12             | 11.6            |
| INR            | 1.3            | 1.2             |