

# Overcoming OPAT challenges for a LVAD patient with a fungal infection.

**Wythenshawe Hospital OPAT Team**

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## Overview

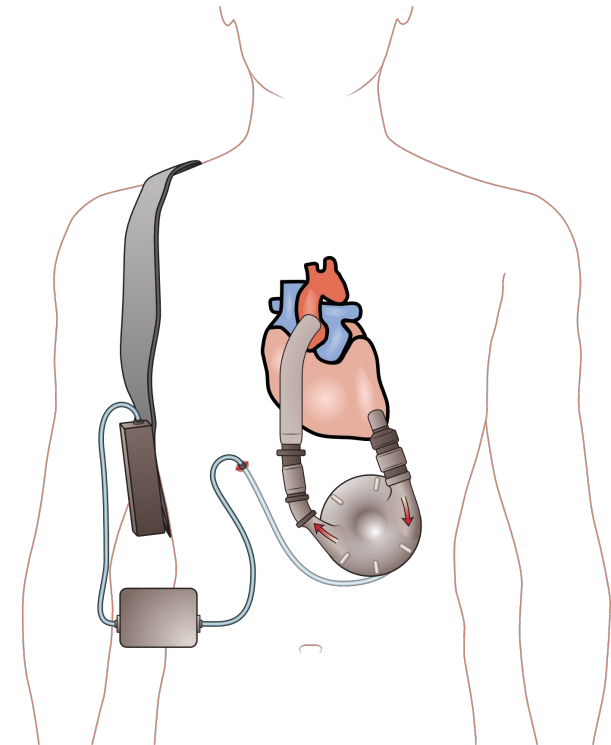
- Patient background
- OPAT options
- Challenges
- Overcoming challenges
- Outcome

## Background

- 47 year old female.
- PMH: Dilated cardiomyopathy (DCM), Duchenne muscular dystrophy (carrier). PPM
- Left ventricular assist device (LVAD) implanted 2019 for DCM – bridge to transplant.
- Under the care of Wythenshawe Transplant team.
- Has a husband and two young sons, one son has Duchenne's and uses a wheelchair.
- Lives out of Wythenshawe area.
- Worked as a healthcare assistant.

## Left Ventricular Assist Device (LVAD)

- Internal mechanical flow pump which takes over the role of the left side of the heart.
- External power source and control via drive line that exits out of the abdomen.
- Powered with portable batteries (2 batteries (4-6 hours each)/ Power source at night).
- Patients are trained to manage their own device, though they also are supported by VAD nurses.
- Small number of patients in the UK with one.
- Normally used as a bridge to heart transplant.



## OPAT Scenario

- Grew *Candida glabrata* fungaemia in blood cultures Aug 21.
- Treated with IV anidulafungin as an inpatient and sent home on Voriconazole.
- Grew *Candida glabrata* again Oct 21.
- Put on IV anidulafungin as an inpatient, trialed Posaconazole but could not be tolerated.
- PET scan showed that growth was on LVAD drive line, spleen and bone marrow.
- Very difficult to eradicate from drive line, will require long term suppression therapy until heart transplant.
- Referred to OPAT for IV administration of anti fungal agent.

## Treatment options open to this patient:

Without OPAT patient would remain an inpatient until a donor heart becomes available...

MFT OPAT options:

1. Hospital Pathway – Attending daily for IV treatment.
2. Community pathway – Patient doesn't meet inclusion criteria for local IV team.
3. Self administration pathway – Only viable solution.

## Self-admin pathway challenges:

- Drug choice and method of administration.
- Safety of administration.
- Burden on patient.
- Patient lives significantly far away from Wythenshawe Hospital.



## Drug choice and method of administration

- Caspofungin was the most appropriate drug choice for OPAT.
- Needle and syringe.
- ? Elastomeric option.
- Cost analysis was performed and discussed in a wider MDT (Including Transplant team, OPAT and pharmacy).

Pathway	£ Cost	Implications
Inpatient	Approx £230 per day for a hospital bed. + Caspofungin cost £40 per vial.	Reduced QoL, risk of Hospital acquired infections.
Self admin (Needle and Syringe)	Caspofungin - £40 per vial Ancillaries	Increased risk with needle and syringe. Burden on patient. Better QoL.
Self admin (Elastomeric devices)	Caspofungin elastomeric device £220 per device. Ancillaries Courier – maintain cold chain	Reduced self admin risk. Reduced Burden and better QoL.



## Safety of administration

- Patient selection.
- Training package completed on ward prior to discharge.
- Run 7 day OPAT service 365 days a year for patient support and problems e.g. Line issues Xmas day.
- OOH ID Consultant available for patient to contact with concerns.
- Safety bloods once a week and PICC assessment and dressing change.

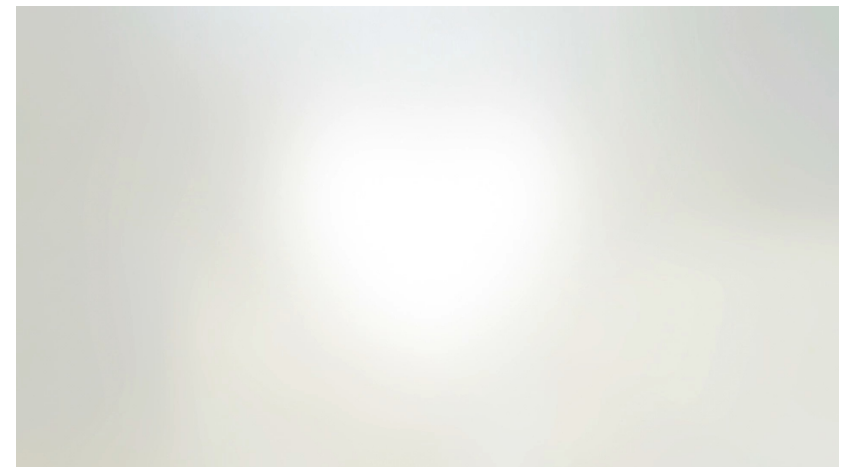


## Burden and distance

- Liaised with Transplant to double up with appointments to reduce visits to hospital.
- One less Caspofungin elastomeric pump required as we gave her a dose on her weekly visit to the hospital.
- Couriered medications.
- Virtual reviews.

## Outcome

- Successfully treated on OPAT service for 146 days.
- Received heart transplant in May and is recovering in ICU.
- Importance of communication and MDT working.





Outpatient Parenteral  
Antimicrobial Therapy  
at **Wythenshawe Hospital**

*Any Questions?*