Retrospective Economic Evaluation of Off-Label Dalbavancin Use in an Acute Medical Hospital

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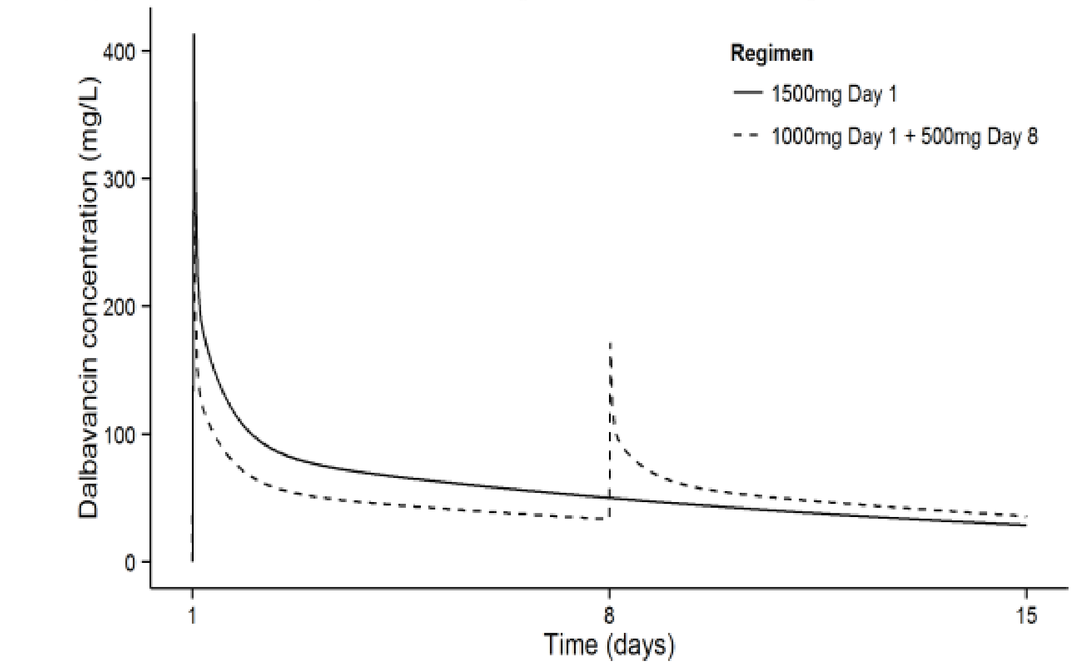
Introduction

Poor adherence to antimicrobial therapy leads to poor outcomes and an increased risk of resistance. However some infections require completion of long courses of treatment with intravenous (IV) or oral antimicrobials.

People who inject drugs (PWIDs) are frequently non-adherent to therapy and regularly abscond from hospital. They are often unsuitable for outpatient management due to concerns around the misuse of long-term vascular catheters and predicted poor adherence with oral therapy.

Dalbavancin is a novel lipoglycopeptide licensed for skin and soft tissue infections (SSTIs). Its prolonged terminal elimination half-life of 372 hours offers an intriguing modality for those requiring long courses of antimicrobial therapy. Use in off-label indications such as endocarditis and osteomyelitis is increasing as effective therapy can be completed with just two 1.5g doses a week apart.[1+2]

Figure 1. Dalbavancin plasma conc vs time in a typical ABSSSI patient (simulation using population PK model) for both the single and the two-dose regimens. - Correvio 2019



OPAT	INPATIENT
✓ Patient preference	✓ Adherence assured
✓ Early discharges	✓ Can use optimal agents
X Requires IV access	X Inefficient bed use
X Daily nurse visits	X Poor patient experience
ORAL	**DALBAVANCIN**
✓ Non-invasive	✓ Limits IV access
✓ Low cost	✓ Sustained high drug levels
X Paucity of evidence	X High cost drug
X Risk of poor adherence	X Unlicensed outside SSTI

Methods

A retrospective review of all patients who received dalbavancin over the previous 18 months was carried out in an acute hospital trust in the North West of England.
Data collected included indication, date of initial therapy, discharge date and course length of treatment. Suitability for OPAT or oral therapy was assessed by specialist review for all patients. A course length for conventional therapy was determined and the estimated date of completion compared with the actual discharge date.

Results

A total of 19 patients had received dalbavancin.

Indications Treated:

On review all of the patients:

- Would ideally be managed with IV therapy.
- Were not suitable for OPAT (x14 PWIDs).
- Were unlikely to adhere to oral therapy.

By using dalbavancin fifteen were discharged without having to complete IV therapy as inpatients.

This saved 367 bed days which equates to £110,100 (estimated at £300/day). When considered against the total cost of dalbavancin used during this period (£64,362.24) this is a saving of £45,736.76.

Mean Per Patient Savings:

Discussion

Dalbavancin offers a felicitous alternative were OPAT is not possible or were adherence with oral therapy is likely to be poor. However three of the four patients who were to re-attend for a 2nd dose of dalbavancin did not return. It is probable that many of the factors causing poor adherence to oral therapy or precluding OPAT also increase the risk of non-attendance. In fact one of these patients self-discharged against advice. Outcomes of treatment were not monitored however no patient was re-admitted within 28 days of initial dalbavancin treatment.

Conclusion

Dalbavancin is used with increasing frequency in our setting; particularly for off-label indications in patients predicted to be non-adherent or unsuitable for therapy delivered under traditional paradigms. Dalbavancin use incurs higher drug costs than alternative therapies but prudent application in select patients may be of overall benefit to the health economy. Further studies are required to evaluate the efficacy of dalbavancin in this patient group.

References
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