Outpatient parenteral antimicrobial therapy (OPAT) for tuberculosis; a fifteen-year retrospective evaluation

O. Hennigan[1], C. Ottewill[2], A. Heeney[1], N. Power[1], N. Akasheh[2, 3], A, McLaughlin[2, 3], E.G Muldoon[1, 4]

1. Department of Infectious Diseases, Mater Misericordiae University Hospital, 2. Respiratory Department, St James's Hospital, 3. School of Medicine Trinity College Dublin, 4. School of Medicine University College Dublin, Ireland.

Background

In 2019 the American Thoracic Society released an update on treatment guidelines for multidrug resistant tuberculosis (MDR-TB), recommending an all-oral regimen over previously-advised injectable agents (e.g. amikacin).

However, there are few published studies that characterise the efficacy and complications of OPAT-based TB treatment.

This multicentre retrospective cohort study was carried out to characterise the efficacy and complications for TB treated with injectable agents via the Irish OPAT service prior to 2019.

It also aimed to quantify the number of bed days saved, re-admission rates and disease recurrence in those treated via OPAT for TB.

Methods

All patients treated for MDR and extensively drug resistant (XDR) TB who received OPAT were identified via the national OPAT database.

Clinical and microbiological data was collected from 2 tertiary referral hospitals for all patients identified.

A proforma was used to record data.

Patient clinical notes were reviewed to complete the data set.

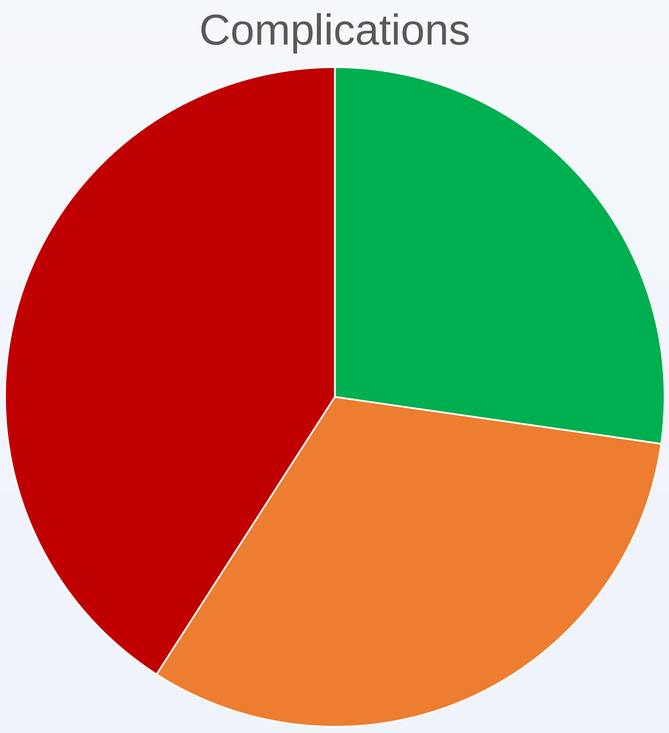
Results

22 cases were identified. 20/22 (91%) cultured MDR-TB, 1 case was presumed MDR-TB and 1 case was later found to be a pan sensitive isolate.

14/22 (64%) were male. 8/22 (36%) were female.

18/22 (82%) were treated for pulmonary TB; 6/22 (27%) had extrapulmonary involvement.

5/22 (23%) had been previously treated for TB. 2/22 (9%) were HIV co-infected.



16/22 (73%) patients developed complications during the course of their treatment.

7/22 (32%) developed one complication while 9/22 (41%) developed multiple complications

8/22 (36%) patients developed tinnitus/hearing loss.

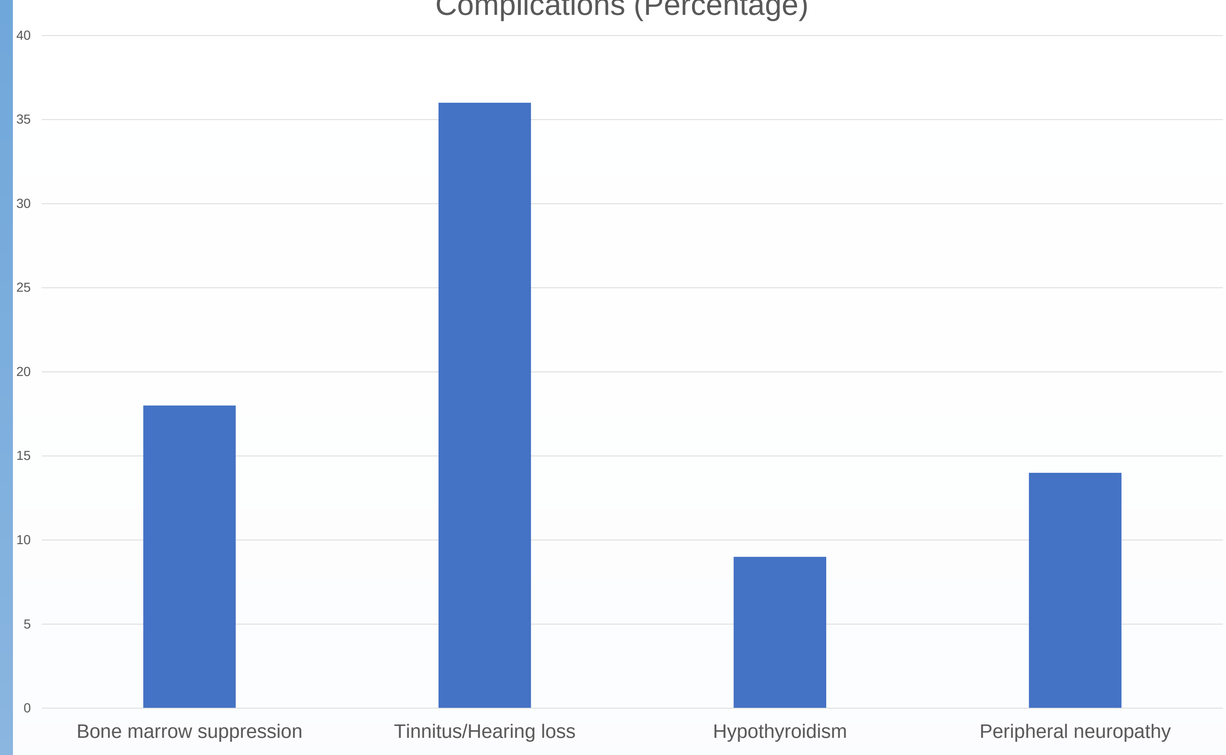
4/22 (18%) patients developed bone marrow suppression or neutropenia.

3/22 (14%) developed peripheral neuropathy.

2/22 (9%) developed hypothyroidism.

11/22 (50%) of patients had their antibiotics changed during their treatment course.

Results

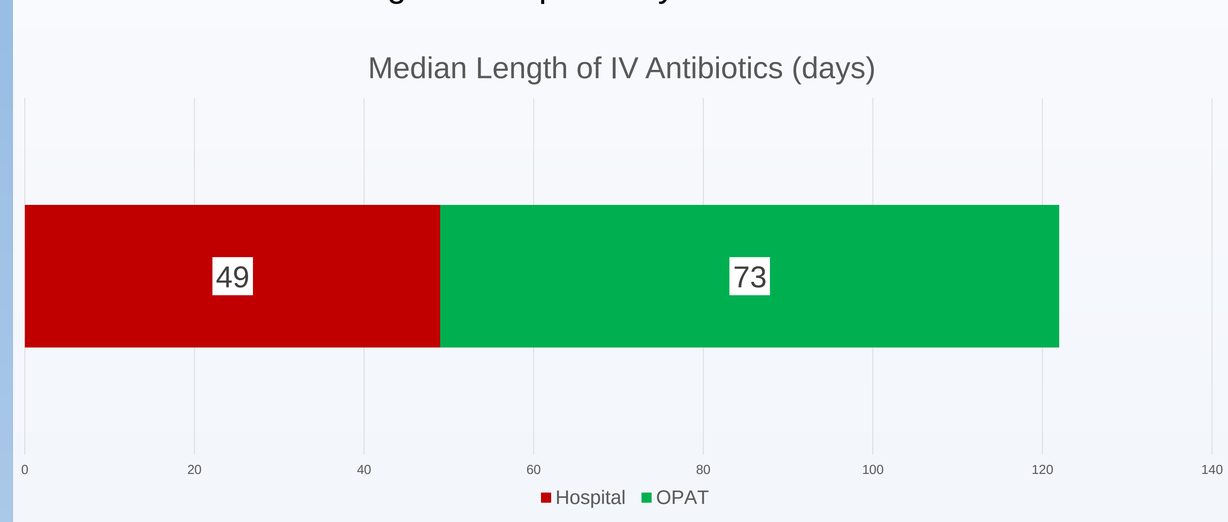


5/22 (23%) required re-admission of which 3 were felt to be treatment related re-admissions while 2 were unrelated. 1 was re-admitted due to issues with medication compliance.

The median length of readmission was 19 days

Patients were on IV antibiotics for a median of 122 days; a median of 49 in hospital and a median of 73 on OPAT.

OPAT facilitated a median of 73 bed days saved, representing an overall 59.8% reduction in length of hospital stay.



The total bed days saved for patients treated via OPAT was 1412.

There were no deaths prior to completion of antibiotics.

There was no episodes of failure of treatment.

No patients had disease recurrence within 1yr of completion of treatment.

Discussion

This study shows OPAT can be used for successful treatment for MDR-TB. Despite a high complication rate, few of these patients required re-admission. It saved a large number of hospital bed days which may additionally translate to cost savings.

While current recommendations for MDR-TB treatment have moved towards all-oral regimens for subsets of patients requiring IV therapies, OPAT may still have a role going forward as an efficacious treatment option in select patients.

Acknowledgements

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