

Amiodarone initiation and baseline monitoring at a large tertiary institution

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Background

Amiodarone is an essential medication in the management of arrhythmias.¹

However, amiodarone has a significant side effect profile including thyroid dysfunction, hepatotoxicity and pulmonary toxicity.^{2,3}

In order to detect toxicity early, the European Society of Cardiology recommends baseline Thyroid Function Tests (TFTs), Liver Function Tests (LFTs), and chest x-ray.³

Similar studies found varied results of TFTs, LFTs and chest x-ray. A New Zealand study found monitoring was performed in 61%, 44% and 81% respectively.⁴ Better results were found in an American study, with 82%, 87% and 87%, respectively.⁵ A larger study in Taiwan found TFT's were performed 36.4% of the time.⁶

Aims

1. Determine local compliance to recommended amiodarone baseline monitoring according to ESC guidelines and previous studies
2. To assess if cardiology team involvement influenced results

Methods

Dispensing software was used to identify 200 patients initiated and discharged on amiodarone at Flinders Medical Centre during the period of January 2017 and June 2018.

The following was obtained retrospectively from laboratory findings and discharge summaries:

- Completion of baseline monitoring for LFTs, TFTs, chest x-rays
- Team initiating amiodarone
 - Cardiology involvement (cardiology vs non-cardiology)
- Location of commencement (ICCU vs non-ICCU)

Results

Of the 200 patients who required amiodarone therapy at our centre; TFTs, LFTs and chest x-rays were performed in 69% (n=138), 99.5% (n=199) and 95% (n=190) of patients, respectively.

Cardiology medical teams were involved in 71.5% (n=143) of patients initiated on amiodarone. Of these, 17.5% (n=35) were admitted under a non-cardiology team, where a cardiology input was sought.

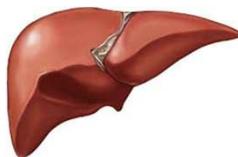
Thyroid Function Tests

Cardiology involvement significantly increased the percentage of TFTs conducted at baseline when compared to no cardiology involvement, with results of 81.1% and 38.6% respectively (p<0.05).



Liver Function Tests

Baseline LFTs were not statistically different between patients who had cardiology input (99.3%, n=142), as compared with those who had no cardiology input (100%, n=57)(p>0.05).



Chest X-Ray

There was no significant difference between cardiology and non-cardiology involvement for monitoring of chest x-rays at baseline (93.7%, n=134 and 98.2%, n=56 respectively)(p>0.05).



Amiodarone was initiated in ICCU 18.5% (n=37) of the time. TFTs were conducted in 48.6% of patients which is significantly less when compared with 73.5% if commenced elsewhere (p<0.05). There was not found to be a significant difference for baseline monitoring for LFTs or chest x-rays between the teams.

Conclusion

Baseline TFTs, LFTs and chest x-rays were performed well at our centre when compared to other studies, however, baseline monitoring of TFT's was suboptimal.⁴⁻⁶ It was found that cardiology involvement improved rates of TFTs monitoring at baseline, however if commenced in ICCU the rates were reduced significantly.

Education and implementation of strategies to improve concordance with international recommendations is required.

References

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