Safety reporting in trials on atrial fibrillation: an observational study of ClinicalTrials.gov registry and corresponding publications

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Background

Results from clinical trials should be available to both healthcare professionals and patients. Adverse events (AE) are any unwanted and unfavourable outcome which can occur during any form of medical care and include serious AEs (SAE), other AEs (OAE) or death (all cause mortality – ACM)[1]. With increasing prevalence and improvement in treatment options in atrial fibrillation (AF)[2], choice of therapeutic modalities depend on patients' preferences as well as potential harms[3]. Previous studies identified underreporting of harms, hindering informed decision making[4]. Aim of this study was to assess the completeness of AE reporting of interventions for AF.

Methods

Completed clinical trials reporting treatment of atrial fibrillation with results posted in Clinicaltrials.gov

To be included in our study, registered trials had to:

- be closed and completed at the time of our search
- have published results in the Clinicaltrials.gov
- deal with treatment of AF (including both rhythm and rate control)

Two researchers independently screened the retrieved items and then independently searched for corresponding publications and

independently extracted the data for AEs in the Clinicaltrials.gov registry as well as data from corresponding publications

Results

- The search of Clinicaltrials.gov database retrieved 340 results
- 75 journal publications, and 75 Clinicaltrial.gov database items and corresponding publications were included in the analyses (Table 1)
- All 75 trials in Clinicaltrials.gov reported SAEs and OAEs, and 22 trials reported ACM data
- Non-pharmacological interventions trials had a higher number of discrepancies in number of SAEs and number of patients with SAEs data (p=0.0009 and p=0.0001), and data on SAEs or OAEs were more often omitted from publication (p=0.0329 and 0.0078)

Table 1. Discrepancies in the reporting of adverse events from atrial fibrillation trials between ClinicalTrials.gov and corresponding publications (n=75)

	Clinicaltrials.gov	Publication	P-value*
Reporting rate n (%)			
SAEs	75 (100)	48 (64.9)	**0.00146**
OAEs	75 (100)	27 (36)	**0.0209**
All-cause mortality	33 (44)	42 (56%)	0.4574
AEs reported as zero			
SAEs	12 (16.0)	8 (10.7)	**0.001**
OAEs	14 (18.7)	6 (8.0)	**0.048**
Death	53 (70.7)	23 (30.7)	**0.0195**
Number of reported AEs per trial (median, 95% CI) †			
SAEs	10.5 (7-27.61)	6 (3-10.7358)	**0.0468**
OAEs	26.5 (8-44.1826)	0 (0-1)	**<0.0001**
Death	0 (0-1.75)	0 (0-1)	0.8665
Number of patients with AEs per trial (median, 95% CI) †			
SAEs	12 (7-29.3)	7 (3-11.6532)	0.0941
OAEs	24 (7.6321-38.3)	0 (0-1.653)	**0.0061**
Death	0 (0-1.75)	0 (0-1)	0.8665

*χ^2 test. †12 publications reported only the total AE and were excluded from the comparison.

Conclusion

AF trials had incomplete and inconsistent reporting of adverse events in the corresponding publications and inconsistent. Incomplete reporting of AEs compromises patient safety.

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