Submission to the Review of Anticoagulation Therapies in Atrial Fibrillation

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In this submission we will be addressing the following terms of reference:

a. To report on current and future options for improving the health outcomes of patients with atrial fibrillation treated with oral anticoagulants.

b. To report on modes of health system delivery which may be used to optimise the use of currently available anticoagulants.

c. To report to what extent optimisation of the use of currently available anticoagulant treatments used in patients with atrial fibrillation would improve health outcomes and at what cost.

Our overall aim in this submission is to highlight the needs of rural and remote patients requiring oral anticoagulation for Atrial Fibrillation (AF). Such patients do not have easy access to specialist haematologist and pathology services and this raises concerns with the use of new anticoagulation medications. However we believe point-of-care testing for INR can be implemented to the required quality which can then assist with the safe prescribing of warfarin in patients with AF.

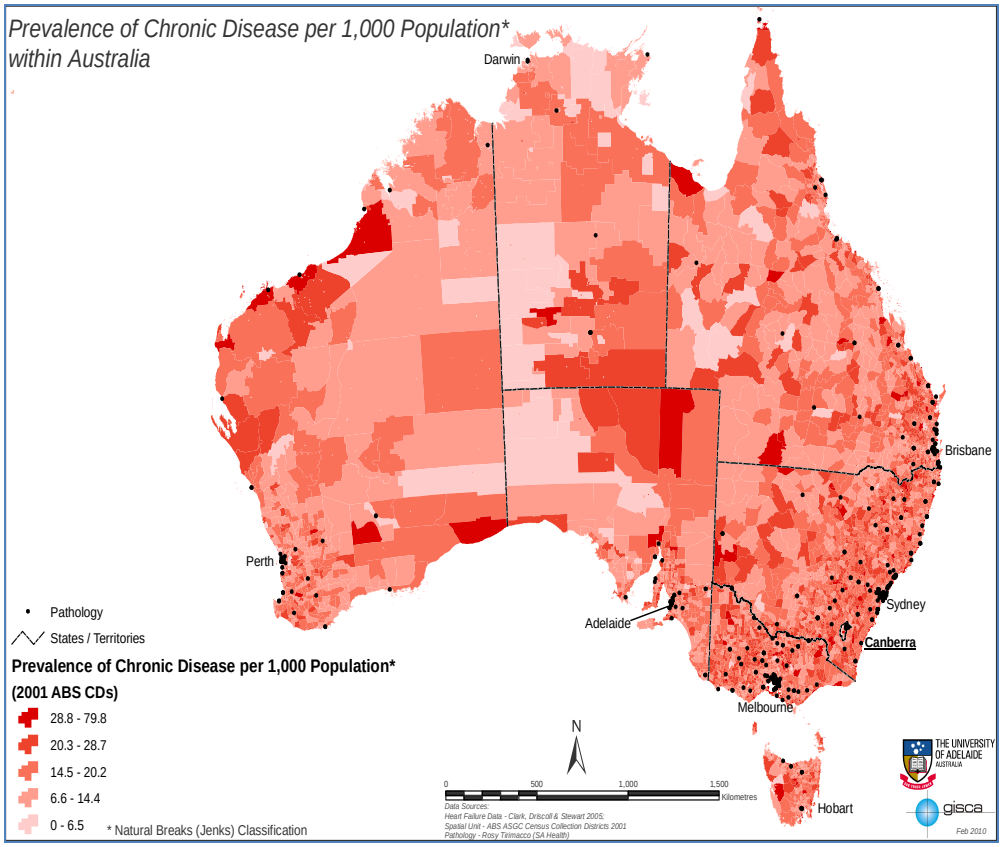
Although warfarin is the standard therapy for stroke prevention in AF patients it is limited by several factors including narrow therapeutic windows, drug-drug and drug-food interactions, and haemorrhagic complications. There is no question that the new oral direct factor inhibitor anticoagulants offer pharmacokinetic characteristics which have advantages for both patients and clinicians. However it is important to also remember that there are enough unknowns at the present time to caution use of

these agents in areas where specialist and pathology services are not readily available to support patients who are suspected of bleeding.

The following known dabigatran features are problematic in majority of rural and remote areas across Australia:

- Unlike warfarin, patients on dabigatran do not require regular blood tests but this does mean that the bleeding risk may be difficult to manage.
- Dabigatran currently has no direct antidote unlike vitamin K for warfarin – this is important for patients undergoing emergency surgery.
- Because there are no tests to manage dabigatran treatment it is difficult to determine whether the drug is working.
- While there is no standard laboratory tests validated for use with dabigatran, thrombin time and activated partial thromboplastin time (aPTT), can be used in emergency cases. An aPTT over 80 seconds is associated with a higher bleeding risk.
- Dabigatran should not be used in patients with severe renal impairment (<30ml/min creatinine clearance).
- Older adults with AF and others who have compromised renal function (CrCl 30-50ml/min) should be prescribed lower doses.
- Serum creatinine is a poor indicator in older patients who may have a normal creatinine but have a low creatinine clearance.
- Dabigatran is not recommended for patients with severe hepatic impairment.
- Twice a day dosing of Dabigatran may affect compliance which may result in hospitalisation and tests not available locally.

All of the above issues are a problem in rural and remote areas where services are not readily available to manage these issues in a timely fashion.



The map above outlines the prevalence of chronic disease in Australia together with where pathology laboratories are located. If a patient on dabigatran was to require on-going renal tests or specialised haematology tests they would have to be located in major cities or larger regional towns where laboratories are located.

Warfarin has been the sole oral anticoagulant for over 50 years and despite its shortcomings it is unlikely to be regarded as obsolete in the foreseeable future. For all its limitations and shortcomings it has a long track record of success, has had widespread acceptance and is highly effective in the setting of AF.[1] However the need for supportive INR monitoring is a key part of its success [2]. This is relatively easy to achieve in the city but in the country this is more difficult due to fewer laboratory and pathology facilities. This is a possible explanation for why AF patients at high risk for stroke are under treated.[3]

As mentioned above pathology laboratories are not located in all towns so monitoring of any tests may involve lengthy delays which may be critical in a

bleeding patient. But unlike dabigatran, warfarin can be monitored using a point of care test for INR.

Point-of-Care Testing (PoCT) for INR has been shown to be an effective monitoring strategy resulting in beneficial clinical outcomes.[4,5] The precision and accuracy of PoCT devices measuring INR have been reported to be generally acceptable for clinical use.[6] PoCT provides clinicians with immediate results allowing patients to have same-day medication adjustments. This saves general practice time in following up results from the pathology laboratory. It also improves medication safety because patient and doctor can directly communicate any medication changes, thereby removing potential errors from misunderstandings over the phone or not being able to contact the patient. Patients have reported to prefer PoCT over traditional methods which involve venepuncture as it is less painful and they spend on average 33 minutes less time in the clinic.[7] Although not well documented in the literature it is our belief that PoCT for INR has improved warfarin usage in AF patients in Australia.

In 2004 the Australian government funded a multi-centre cluster randomised controlled trial to investigate the safety, clinical effectiveness, cost effectiveness and satisfaction of PoCT in general practice.[8] The trial provided evidence that PoCT does assist the primary health care team in the management of chronic disease and that it was safe to perform this testing in general practice. However the cost of INR tests was calculated to be more expensive than traditional laboratory tests but in part this could be attributed to the trial protocol which included an expensive training model to ensure that issues of test quality and patient safety did not confound any of the clinical findings.

General Practitioners had hoped that the outcome of the trial would be Medicare rebates for them to perform INR and other tests in their surgeries but this has not yet happened and remains a significant barrier to performing PoCT in general practice.

Since the trial the Australian government through the Quality Use of Pathology Program has funded The Australian Point of Care Practitioner's Network (APPN) to develop and provide an effective program for training, certification and professional

development for all Point of Care Testing (PoCT) operators (www.appn.net.au). The APPN can provide clinical and technical education for general practice teams and address concerns about quality testing. It currently has over 900 members (15% GPs) and has extensive information on INR. On-line competency tests provide CPD points for both doctors and nurses. We are confident that through the APPN model we can provide INR testing that meets the required quality of standards but at a reasonable cost, and almost certainly less than the implementation model used in the POCT Trial.

The point that we would like to make in this submission is that although no standards exist PoCT has been implemented in many cases without any quality framework. One of the reasons why the APPN has been funded is to educate the importance of having a quality framework and hopefully change practice and improve the quality of tests currently performed.

We strongly believe that although the new oral direct factor inhibitor anticoagulants have some advantages such as no monitoring being required, warfarin is the safest front-line option in rural and remote areas. To further improve the uptake of warfarin in towns without laboratory services, INR PoCT should be funded. Reimbursement should accompany a quality framework that should take into account the limited resources available in general practice, being without undue regulation and work within the framework of general practice. The APPN will be able to provide appropriate education, training, competency and support within that model for all users. The GP trial failed to prove the effectiveness of PoCT in monitoring warfarin in primary care. The study did not report on proportion of patients and tests with results in target range which is the usual way of measuring clinical effectiveness.[9] A strong case exits to investigate how effective PoCT is in monitoring patients on warfarin by comparing time in range and comparing to GP practices relying on traditional pathology to monitor patients on warfarin.

References

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