

RAPS trial protocol paper

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RAPS (Rivaroxaban in Antiphospholipid Syndrome) protocol: A prospective randomised controlled phase II/III clinical trial of rivaroxaban versus warfarin in patients with thrombotic antiphospholipid syndrome, with or without SLE

Hannah Cohen^{1,2}, Caroline J Doré³, Simon Clawson³, Beverley J Hunt^{4,6}, David Isenberg⁷, Munther Khamashta^{5,8}, Nicola Muirhead³ on behalf of the RAPS Trial Protocol Collaborators

¹Department of Haematology, University College London Hospitals NHS Foundation Trust, 1st Floor Central, 250 Euston Road, London NW1 2PG, UK

²Haemostasis Research Unit, Department of Haematology, University College London, London WC1E 6DB, UK

³University College London Comprehensive Clinical Trials Unit, Gower Street, London WC1E 6B, UK Departments of ⁴Hematology and ⁵Rheumatology, Guy's and St Thomas' NHS Foundation Trust, Westminster Bridge Road, London SE1 7EH, UK

⁷Centre for Rheumatology Research, Division of Medicine, University College London, London WC1E 6JF, UK

⁶Departments of Haematology and ⁸Rheumatology, Kings College London, 20 Newcomen St, London SE1

1UL, UK

RAPS Trial Protocol Collaborators:

Maria Laura Bertolaccini, David D'Cruz, Maria Efthymiou, Andrew Lawrie, Samuel Machin, Ian Mackie,

Anisur Rahman

Address for correspondence:

Dr Hannah Cohen, Department of Haematology, University College London (UCL) Hospitals NHS

Foundation Trust, 250 Euston Road, London, NW1 2PG, UK.

Tel: 020 3447 7368 / 9456 (PA)

Fax: 020 3447 9911

Email: hannah.cohen@uclh.nhs.uk

Abstract

Introduction

The current mainstay of the treatment of thrombotic antiphospholipid syndrome (APS) is long-term

anticoagulation with vitamin K antagonists (VKA) such as warfarin. Non-VKA oral anticoagulants (NOAC),

which include rivaroxaban, have been shown to be effective and safe compared with warfarin for the

treatment of venous thromboembolism (VTE) in major phase III prospective randomised controlled trials

(RCT), but the results may not be directly generalisable to patients with APS.

Aims

The primary aim is to demonstrate, in patients with APS and previous VTE, with or without systemic

lupus erythematosus (SLE), that the intensity of anticoagulation achieved with rivaroxaban is not inferior

to that of warfarin. Secondary aims are to compare rates of recurrent thrombosis, bleeding and the

quality of life in patients on rivaroxaban with those on warfarin.

Methods

RAPS is a phase II/III prospective non-inferiority RCT in which eligible patients with APS, with or without

SLE, who are on warfarin, target International Normalised Ratio (INR) 2.5 for previous VTE, will be

randomised either to continue warfarin (standard of care) or to switch to rivaroxaban. Intensity of

anticoagulation will be assessed using thrombin generation (TG) testing, with the endogenous thrombin

potential (ETP) as the key parameter. The primary outcome is the percentage change in ETP from

randomisation to day 42. Markers of in vivo coagulation activation, prothrombin fragment 1.2, thrombin

antithrombin complex and D-dimer, will also be measured.

Discussion

If RAPS demonstrates that i) that the anticoagulant effect of rivaroxaban is not inferior to that of

warfarin using TG testing and ii) the absence of any adverse effects that cause concern with regard to

the use of rivaroxaban, this would provide sufficient supporting evidence to make rivaroxaban a

standard of care for the treatment of APS patients with previous VTE, requiring a target INR of 2.5.

Trial registration

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