

POSTER PRESENTATION

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Haemoglobin and anaemia in the SMART study

A Mocroft^{1*}, AR Lifson², G Touloumi³, J Neuhaus², Z Fox¹, A Palfreeman⁴, M Vjecha⁵, S Hodder⁶, S De Wit⁷, JD Lundgren⁸, AN Phillips¹

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Purpose of study

Data from randomized trials on the development of anaemia after interruption of therapy is not well described. We aimed to describe the development of anaemia after

interruption of cART and the relationship between the development of anaemia and clinical events (AIDS, deaths or non-AIDS events) in the Strategic Management of Antiretroviral Therapy (SMART) randomised trial.

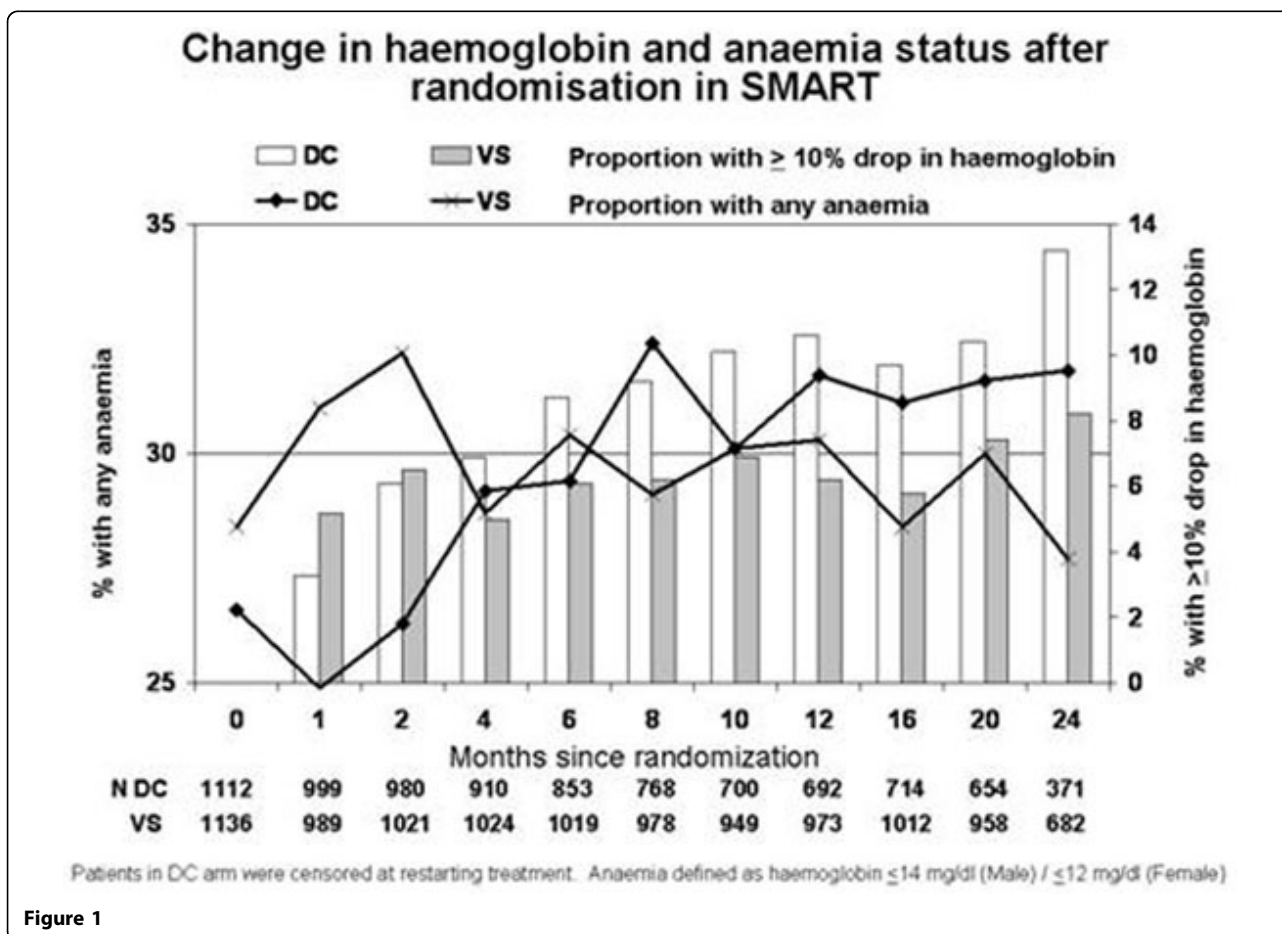


Figure 1

¹University College London Medical School, Royal Free Campus, London, UK
 Full list of author information is available at the end of the article

Methods

2248 patients from the SMART study were included. We used Cox proportional hazards models to investigate development of new (<12 mg/dl for females, <14 mg/dl for males) or worsening (<8 mg/dl if anaemic at randomization) anaemia and poisson regression analyses to explore the relationship between anaemia and the development of AIDS, death or non-AIDS events.

Results

The change in haemoglobin and anaemia after randomization to SMART is shown in Figure 1.

759 patients developed new or worsening anaemia; 420/1106 (38.0%) in the drug conservation (DC) arm and 339/1127 (30.1%) in the virological suppression (VS) arm; $p < 0.0001$. In the first 4 months following randomization, there was no difference in the risk of new or worsening anaemia when comparing the DC arm to the VS arm (adjusted relative hazard [RH] 1.02, 95% CI 0.82-1.25, $p = 0.88$). After the initial 4 months, patients in the DC arm had a significantly increased risk of new or worsening anaemia (adjusted RH 1.56, 95% CI 1.28-1.89, $p < 0.0001$). 56 patients died during 5811 person-years of follow-up (PYFU), 56 developed AIDS (5728 PYFU) and 100 developed a non-AIDS event (5664 PYFU). Currently anaemic patients had an increased incidence of AIDS (adjusted IRR 2.31; 95% CI 1.34-3.98), death (2.19; 95% CI 1.23-3.87) and non-AIDS events (2.98; 95% CI 2.014.40) compared to non-anaemic patients.

Conclusions

Patients in SMART who interrupted cART had a higher risk of new or worsening anaemia. Patients with anaemia had a higher incidence of AIDS, non-AIDS defining events or deaths; whether this relationship is causal or a consequence of the disease is not clear but suggests that anaemia, or drop in haemoglobin, might be of use as a pre-clinical marker of disease. Further research is warranted to further understand the occurrence of anaemia, its consequences and underlying pathological mechanisms.

Author details

¹University College London Medical School, Royal Free Campus, London, UK. ²University of Minnesota, Minnesota, USA. ³Athens University Medical School, Athens, Greece. ⁴Medical Research Council Clinical Trials Unit, London, UK. ⁵Veterans Affairs Medical Centre, Washington, USA. ⁶New Jersey Medical School, New Jersey, USA. ⁷St Pierre Hospital, Brussels, Belgium. ⁸Copenhagen HIV Program, University of Copenhagen, Copenhagen, Denmark.

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