Clinical Outcomes of Lupus Anticoagulant Testing

Dr Hannah Brown*, Dr Sarrah Tayabali*,
Tejas Gandhi and Dr Keith Gomez
both authors contributed equally to this work
Katharine Dormandy Haemophilia and Thrombosis Centre,
Royal Free London NHS Foundation Trust, London, UK

Background:

Antiphospholipid (aPL) antibodies are a heterogenous group of antibodies directed against phospholipid binding proteins. They are commonly tested when screening for antiphospholipid syndrome (APS), investigating a prolonged APTT or as part of an autoimmune screen.

APS is a systemic acquired autoimmune condition characterised by the presence of persistent aPL antibodies and the clinical manifestation of thrombosis and/or pregnancy complications. The 2006 revised Sapporo criteria for the diagnosis of APS requires at least one clinical and one laboratory criteria to be met(1).

Laboratory criteria are: positive lupus anticoagulant (LA), anti-cardiolipin (aCL) or anti-β_2-glycoprotein-1 (aβ2GP1) present on two or more occasions at least 12 weeks apart.

As no single test has shown 100% sensitivity for detecting LA, current guidelines advise that at least two assays be used to ensure detection(2). With multiple assays available, LA testing varies between centres and some centres rely on a single assay.

Our lab uses the combination of dilute Russell Viper Venom time (DRVVT) and silica clotting time (SCT) with the patient regarded as having a positive LA if either test is prolonged and confirmed to be phospholipid dependant.

However it is unclear whether positivity in one test alone is indicative of a clinically significant aPL antibody.

Methods:

We undertook a retrospective review of all requests for Lupus anticoagulant testing over a 12 month period in our laboratory.

We reviewed the clinical records of all patients with a first positive LA looking at:
a) reasons for testing
b) compliance with retesting guidance
c) final diagnosis.

We specifically looked at the initial DRVVT and SCT to assess whether dual testing adds diagnostic value over a single test.

Results:

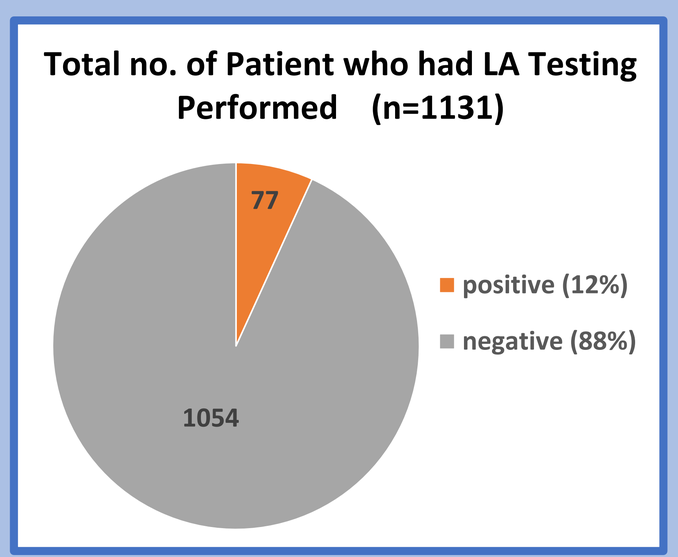
1131 patients had LA tests performed in the 12 month period. 137 (12%) were positive. Of these 77 patients were being tested for the first time and further analysis focused on this group.

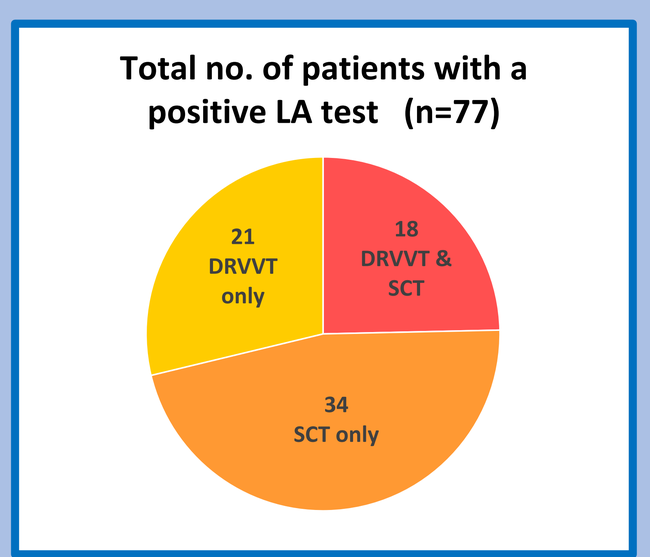
Indications for testing were:
- Autoimmune screen n=35 (45%)
- **Thrombosis investigation** n=27 (35%)
- Prolonged APTT n=13 (17%)
- No relevant clinical details n=2 (3%)

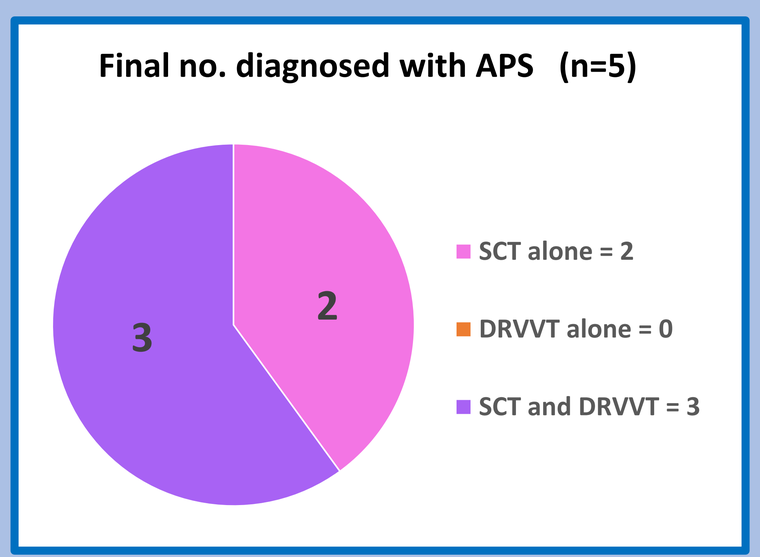
Of the 77 patients that were testing positive for the first time:
- 18 (23%) were LA positive both on DRVVT and SCT
- 38 (49%) just on SCT and
- 21 (27%) just on DRVVT.

44 (57%) of first time positive patients were re-tested. Time periods for re-testing varied significantly from 4 weeks to up to 18 months.

Of the 27 patients that were being investigated for thrombosis aetiology, 5 (19%) went on to be diagnosed with APS. **2 were positive on SCT alone on initial testing and 3 by both DRVVT and SCT.**







Conclusions:

Just over half of LA positive cases were re-tested after at least 12 weeks as per guidelines. Reasons for not re-testing include patients on long-term anticoagulation which would interfere with LA tests, normalisation of APPT and autoimmune screens where other tests have not supported a diagnosis of autoimmune disease.

Our data suggests that there are cases where positivity on just the SCT, with negative DRVVT can lead to a diagnosis of APS supporting the recommendation for using both assays. Therefore, for centres where only one initial screening assay is used, there is the risk that cases of APS could be missed.

References

1. Miyakis et al. 2006. J Thromb Haemost. DOI: 10·1111/j.1538-7836·2006·01753.x
2. Moore. 2014. Semin Thromb Hemost. DOI: 10·1055/s-0033-1364185

BSH2020 EP-158-A
Thrombosis and Haemostasis
Sarrah Tayabali
Poster presented at: British Society for Haematology
PosterSessionOnline.com