MINUTES OF THE MEETING OF THE SECRETARY OF STATE FOR TRANSPORT'S HONORARY MEDICAL ADVISORY PANEL ON DRIVING AND DISORDERS OF THE CARDIOVASCULAR SYSTEM

THURSDAY, 18 APRIL 2013

Present:	Dr M J Griffith	Chairman
	Dr A Kelion	
	Dr L Freeman	
	Professor C Garratt	
	Dr R Henderson	
	Mr M Gannon	
	Dr D Northridge	
	Dr D Fraser	
Lay Members	Mr B Nimick	
	Mr D Simpson	
Ex-officio:	Dr D Mills	DVA , Northern Ireland
	Dr S Mitchell	Civil Aviation Authority
	Ms J Chandaman	Medical Licensing Policy, DVLA
	Dr B Wiles	Senior Medical Adviser, DVLA
	Dr A Kumar	Panel Secretary/Medical Adviser, DVLA

1. Apologies for absence

Mr A Goodwin, Professor M Cowie, Mr B Jones, Mr K Rees.

2. Panel membership changes

The Panel Chairman welcomed the new members: Dr R Henderson, Mr M Gannon, Dr D Northridge and Dr D Fraser.

3. Minutes of meeting of 25 September 2012

The minutes of the meeting of 25 September 2012 were agreed and accepted as accurate.

4. Matters arising

4(i) Coronary CT angiography: Group 2 licence standards

It was agreed at the previous meeting (25 September 2012) that in individuals with **no** known coronary artery disease (acute coronary event/angioplasty/CABG), if CT angiography shows no stenosis more than 50%, then Group 2 licence to be issued without the need for functional testing. This was based on the evidence that in these individuals the annual risk of a sudden incapacitating event would be less than 2%.

However, it was not discussed/agreed whether these individuals would be issued with an unrestricted Group 2 licence or a review/restricted Group 2 licence and whether they would need a cardiac functional test in future or not.

There was extensive discussion on this issue. Repeating a cardiac functional test every 3 years in these individuals might be over investigating them as they were at low risk of a sudden event, however, there was also concern expressed that although the coronary artery stenosis was less than 50% on CT angiography at the time, depending upon the disease extent, this might progress with time and if these individuals are not followed-up from a licensing point of view by DVLA, a high risk group may be missed out.

A consensus was not reached regarding the duration of a Group 2 licence in these individuals and follow-up with need for cardiac functional test in future. Panel agreed that this needs to be discussed further at a future meeting, and if available, there may be need for data on longer follow-up in individuals who have less than 50% coronary artery stenosis on CT angiography.

Other discussion points:

It is important to recognise that Drivers' Medical Group at DVLA are not trying to restrict a Group 2 licence in all individuals with coronary artery disease, but in those who are at high risk of a sudden incapacitating event.

CT coronary angiography tends to over-estimate the degree of stenosis as compared to invasive angiography. There was much discussion on the issue of the acceptable level of stenosis on an angiogram (CT and/or invasive) already available in an asymptomatic individual which would exclude the need for a functional test before issuing a Group 2 licence. Individuals with less than 50% stenosis on CT angiography are unlikely to be at risk of a major adverse cardiac event more than 2% per annum, hence it would be appropriate to allow Group 2 licensing without a repeated functional test on renewal. However, the prognosis of left main stem stenosis is different to those of the other coronary vessels; so if individuals with less than 50% stenosis on CTA are allowed a Group 2 licence without a functional test with no follow-up, left main stem disease may have to be given special consideration.

There was concern about the subjectiveness of the phrase "non obstructive lesion" or "non-flow limiting lesion" on an angiogram report. If an individual with known coronary artery disease (history of acute coronary syndrome, angioplasty/CABG) has failed a functional test and re-applied with a supporting angiogram report, this needs to be interpreted with caution as the term "non-flow limiting" or "non obstructive lesion" is descriptive and cannot be taken as an objective measure. However, if pressure wire studies have been done, then fractional flow reserve values can be taken as an objective measure and if FFR (Fractional Flow Reserve) greater than 0.75, Group 2 licence allowed despite the positive functional test .

4(ii) Aortic stenosis: Group 2 licence standards

It was agreed at the previous meeting (25 September 2012) that asymptomatic individuals with severe aortic stenosis would need to meet the DVLA exercise tolerance test requirements and if satisfactory issued with a one-year review Group 2 licence. At a Glance needs to be amended to reflect the new standards and to include the definition of severe aortic stenosis (as per the European Society of Cardiology Guidelines, August 2012).

(Proposed AAG wording):

Aortic stenosis: Group 2 licence standards:

1. Disqualified if symptomatic;

2. If asymptomatic but severe aortic stenosis – exercise tolerance test requirements must be met. If meets exercise test requirements, annual Group 2 licence to be issued (satisfactory medical follow-up required).

Disqualified:

1. If a cardiologist's opinion is that it is unsafe for the individual to undergo exercise testing (as clearly they cannot meet the Group 2 criteria).

2. If during an exercise test: development of symptoms, fall in blood pressure, ECG changes.

3. If unable to undertake an exercise test due to other reasons.

The **Appendix section** of **At a Glance**: Definition of severe aortic stenosis (as per the European Society of Cardiology Guidelines, August 2012)

1. Aortic valve area <1 sq cm or <0.6 sq cm per m sq BSA (body surface area).
2. Mean aortic pressure gradient >40 mmH/g.
3. Maximum jet velocity >4 m/s.

Discussion points:

1. ST depression needs to be interpreted with caution as it could be due to hypertension.

2. If unable to undertake exercise testing due to other reasons eg. mobility issues, they would be disqualified as they have failed to demonstrate they can meet the Group 2 licence criteria. It may well be that in these individuals symptoms are not present/under reported due to their sedentary lifestyle, it is well known that symptoms of aortic stenosis typically get precipitated on exertion (which might be relevant for Group 2 driving).

5. Marfan's syndrome: aortic root replacement: Group 2 standards

Panel agreed to revise the Group 2 licence standards in cases of aortic root replacement in Marfan's syndrome. This was based on the current available evidence as drafted in the summary by Dr Freeman (GUCH specialist). Summary enclosed in the Panel agenda bundle.

Group 2 licence standards: Marfan's syndrome: aortic root replacement: Individual case assessment needed after specialist opinion.

Debarred if: emergency aortic root surgery; elective aortic root surgery associated with complications/high risk factors eg. aortic root, valve and Arch (including de-branching) surgery; external aortic root support operation.

Annual review Group 2 licence to be allowed in elective aortic root replacement surgery – if uncomplicated, successful surgery with satisfactory regular specialist follow-up – valve sparing surgery, root replacement + valve replacement with no post-operative evidence of suture line aneurysm and on 2 yearly MRI/CT surveillance.

6. Left ventricular ejection fraction measurement: interpretation of LVEF value (different methods): Group 2 Licence standards

DVLA has received reports regarding LVEF values with significant variation when measured by different modalities in the same individual. Panel has concerns about the significant variability in the values of LVEF as measured by different modalities at some centres.

Two illustrative cases were discussed where one case had a small variability in the LVEF value as measured by MUGA scan as compared to contrast echocardiography. As the lower of the 2 values was close to 40% in this case and the rest of the information was favourable, it was considered acceptable for a Group 2 licence.

However, a second case was discussed where there was huge variability between the LVEF values as measured by the MUGA scan (17%) and a subsequent 2D echocardiogram (46%); the final arbiter was the LVEF measured by MRI (25%) which was closer to the MUGA scan value and reflected the clinical scenario more closely (history of extensive infarct). A Group 2 licence in this case was revoked as both the MUGA and MRI values were less than 40%.

Panel's advice was that when there is a significant variation between the values of LVEF as measured by 2D echo and those of MPS/stress echo/MRI, usually the MPS/stress echo/MRI would be more accurate as less likely to have inter-report variability. However, this needs careful interpretation with the background medical information.

If in doubt, case could be referred for Panel opinion.

7. Cardiac MRI +/- stress MRI: cardiac functional assessment for Group 2 standards

Recently, DVLA has received requests for cardiac MRI in cases where there is conflicting evidence regarding the results of a cardiac functional assessment and LVEF values. As MRI is now regarded as the Gold standard for measurement of left ventricular ejection fraction, the need for DVLA to commission/refer for MRI in certain Group 2 cases was discussed at length. Cardiac MRI is not routinely commissioned by DVLA.

It was agreed that Panel would invite an expert on cardiac MRI +/- stress MRI to give a presentation to Panel at the next meeting.

In the interim cases would need to be reviewed on an individual basis.

Discussion points:

If the issue in question is left ventricular ejection fraction measurement, then a stress MRI is not essential and an MRI could be commissioned just for the measurement of LVEF as there are added cost implications for stress MRI.

A relevant case was discussed and Panel suggested a gated myocardial perfusion scan to assess reversible ischaemia and measurement of LVEF instead of an MRI.

8. Chronic aortic dissection: Group 2 standards

There was a discussion on the criteria of "complete thrombosis of the false lumen" as in the clinical scenario in some cases it is desirable to have a patent false lumen for perfusion of one of the major blood vessels. The advice from the vascular surgical expert on the Panel: Given the current available medical evidence, the risk of future rupture with the presence of patent false lumen, would not justify changing the current Group 2 licence standards. Hence, the criteria "there is complete thrombosis of the false lumen" needs to be met for a Group 2 licence entitlement.

Individual cases where there is a strong support from a specialist contrary to this criteria, such cases should be referred to the vascular surgeon expert on the Panel. (Relevant literature was enclosed with the Panel agenda bundle).

Panel agreed that standards in At a glance need to be amended to add "medical follow-up required" to both the Group 1 and Group 2 licence standards. Additionally, for Group 1: maximum diameter must not exceed 6.5 cm. (This is because a maximum diameter greater than 6.5 cm has risk of rupture not acceptable for Group 1 licence standards).

9. Endovascular repair of abdominal aortic aneurysm: Group 2 standards

It has been brought to DVLA's attention (letter from vascular surgeon) that endovascular aneurysm repairs have a finite risk of rupture unlike open repairs where this is an extremely rare event unless they should develop further residual disease many years after the original surgery.

The current Group 2 licence standards mentions "satisfactory surgical treatment" but does not distinguish between open and endovascular techniques of repair of an abdominal aortic aneurysm.

Panel's advice was that endovascular repair complicated by a Type 1 endoleak should debar from Group 2 licensing as they have a high risk of future rupture and indicates unsatisfactory repair of aneurysm.

10. Recurrent deep vein thrombosis: Group 2 standards

Individuals with recurrent DVT should normally be on long-term anticoagulation as part of their clinical management, so the risk of future pulmonary embolism would be low if anticoagulated. Individual case assessment may be required if a Group 2 driver/applicant with a history of recurrent DVT is not on anticoagulation treatment.

11. European Union Cardiology Working Group progress

Panel Chairman has sent correspondence to the Working Group leader (Dr Vijgen) regarding the standards on ICD, after reviewing the current literature. Dr Vijgen has responded to this and agreed to put the views in front of the rest of the Working Group. (A copy of the correspondence from Dr M Griffith to Dr Vijgen to be forwarded to Panel members).

Panel agreed that the current UK standards on the abdominal aortic aneurysm (Group 1) and the minimum 40% left ventricular ejection fraction requirement for Group 2 licence standards were evidence-based and important for road safety. The UK may need to go for higher standards if needed based on medical evidence.

12. Cases for discussion

Four cases were discussed and Panel gave advice on them.

Three cases were relevant to left ventricular ejection fraction measurement and need for MRI. There was one case of syncope.

13. Date of next meeting

Thursday, 19 September 2013.

DR A KUMAR MBBS MRCGP
Panel Secretary

24 April 2013